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OTHER TOPICS

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Editorials

ESTABLISHED IN 1872

Two Corrigans

MUCH stress was laid upon the flier Corrigan's lack of equipment for his recent flight to Ireland. It reminded us of Sir Dominic John Corrigan's supposed lack of equipment for his great work on the heart—was it four or six beds in that Dublin hospital that provided the material for his famous paper on aortic regurgitation and other epoch-making contributions?

Now, of course, neither man lacked equipment of a sort not always to be found behind marble walls, chrome trimmings, and heavy endowments.

Make no mistake about it; both were adequately equipped.

The Bourne Case

THE acquittal of Dr. Aleck William Bourne, eminent British obstetrician, on the criminal charge of performing an illegal operation upon a fifteen-year-old girl who had been assaulted by a group of soldiers, did not settle any fundamental issue. Bourne based his action upon a belief that without the operation grave mental and nervous consequences would have ensued. They may ensue anyway. The girl, it appears, shared in the courtroom drama and the concluding uproar. Bourne may have been right in his estimate of this particular girl's mental and nervous status, but the reasoning in respect to her would not necessarily follow in another case. If the incident lets down the bars against illegal abortion nothing but regret will ultimately ensue.

The Social Outlook Versus Science

PROFESSOR Howard W. Haggard of Yale University warns us that we place too much emphasis upon laboratory aptness in medical students. Social-mindedness should be stressed more. The practice of medicine is primarily an art, for it involves social responsibility and human values.

It is good to be told that the readjustment implied by Professor Haggard's words must be made or else the medical profession will be swept aside.

Professor Haggard has put his finger upon the sorest of spots, exactly where half of our troubles lie.

While his words are true, there is great danger in their application; for there is every peril that our teaching chairs will be seized by poisonous propagandists for bureaucratized medicine, not themselves practitioners, and inimical in every way to the genuine interests of the student body.

Sniping at Æsculapius

POTSHOTS are being fired at organized medicine from many directions. *Liberty* magazine fired a stinkbomb recently, allegedly written by a physician, which held no particular interest and merited no reply. The Government's move, on the other hand, was curiously

interesting psychologically as an example of wishful thinking; but the time has not yet arrived for government by decree. Harry Elmer Barnes, Ph. D., in his widely syndicated column, paid his compliments to Hippocrates the other day in a somewhat bitter fashion; to the ineffable Barnes, Hippocrates is just a straw man to be beaten as one responsible, if you please, for much backwardness. What a social and historical perspective in one who invites the public daily to bask in his "wisdom."

But no plot thickens. There is no conspiracy behind the barrage. It is just a matter of trend. In the general degradation that characterizes much of the present-day social moods and modes, it is to be expected that fearsome phenomena will occur; but we are not saying that the infection should be treated along entirely expectant lines.

However, just as there are self-limited diseases, so an acute social infection may itself excite the formation of enough antibodies to put an end to sickness—unless it is a sickness unto death. Thus it has been pointed out that the dollar that is to be taken from the voter's wages under the proposed bureaucratization of medicine (4 to 4.5 per cent of the income of the covered population) will come back to him reduced in purchasing power—a powerful political antibody in time. Then the excessive taxes that eat profits tend directly to lower wages—another potential antibody. As the country enters upon the plan whereby billions of dollars are to be added to the nation's burdens, the more intensive elaboration of the two (among many) antibodies aforesaid should aid the patient mightily in overcoming the country's grievous illness.

The dumb undermining of medicine that is now being attempted by neolithic elements, working without definite plot, is merely a symptom of society's sickness.

Virchow's Ethnic Traits

VIRCHOW'S black eyes, touch of the Slav, and Mongoloid features sharply differentiated him from Germans of Nordic breed. There is even Mongolian suggestion in the name Virchow.

An odd circumstance in his career is recorded by Garrison in the following passage: "An accidental shelling of the Muséum d'histoire naturelle in Paris, during the war of 1870–71, led Quatrefages to write an indignant pamphlet stating that the Prussians were not a Germanic, but a barbaric, destructive Mongol race. This stirred Virchow's patriotism to the extent of instigating a colossal public census of the color of the hair and eyes in 6,000,000 German school-children, the solemn official character of which frightened some of the children out of their wits."

One wonders how this man would be rated ethnically today, from the Aryan point of view. Yet never was there a greater German.

The Art of Medicine

IT seems to us that certain clinicians of the last years of the nineteenth century possessed in a degree not now equaled, much less surpassed, a charm in their influence upon patients. We must candidly admit that the modern school has it all over the older type in point of scientific advantage. But something has been lost in acquiring the new set-up. The older men were artists. The modern men are scientists. The older men were more interested in the individual and in restoring him to health as much by "magic" as by science. The older clinicians knew nothing about the pathology of polycythemia vera but probably got about as far in the management of such mysteries as the modern clinicians with their phenyl-hydrazine hydrochloride, etc. But it is the personal relationship that has changed most. So ingrained and habitual were the "artist's" sympathetic, intimate and confidence - inspiring methods and manners that it was curious to see them just as much in evidence in the case of the poor laborer in the clinic or ward as in that of the financier in his gingerbread castle. Somehow we miss some of that *curative* element in the modern clinician's technic. It is a bit amusing at times nowadays to hear the modern exemplars of medical science eloquently denouncing certain social schemes for changing medical practice on the ground of their destructive effect upon the personal relationship of physician and patient. Such denunciations are at least a more or less abstract acknowledgment—not exactly academic—of how precious such a rela-

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ETIOLOGICAL FACTORS IN *Suicide*

BENJAMIN POLLACK, M.D.

Senior Assistant Physician,
Rochester State Hospital

Rochester, N. Y.

SUICIDE may be defined as the intentional taking of one's own life or the intentional failure to save oneself when danger threatens. The question of the moral justification of suicide has exercised the minds of ethical philosophers from the days of Plato, Marcus Aurelius, and Seneca down to the present time. Some ancient and even more recent schools of thought, especially the Oriental, have defended this act under certain conditions. In some countries, suicide is still carried out as a ritual of national or religious customs. However, in this paper a different form of suicide will be discussed, namely, the individualized type as distinguished from the national type.

It has been noticed that the trend of suicide has been steadily upward in practically all countries. Recent statistics[1] show that the highest rates are present in Germany, Austria, Switzerland and Japan, all with a rate of approximately 23 per 100,000 population. Sweden, United States, Belgium, Denmark, and Australia are midway with a rate of 10-15 per 100,000 population, and still another group, Norway, Finland, Netherlands, Spain, Portugal, Italy, England, Scotland and Ireland, have the lowest rate of about five per hundred thousand of population. Among primitive people, suicides are almost non-existent.

IT is interesting to note that, up to 1920, there were more suicides than deaths from automobiles. At the present time the suicide rate is still higher than that of homicides, in a ratio of about 14:8. These conclusions were derived from the statistics furnished by the Federal Bureau of Vital Statistics up to and including 1935.[2] The rising rate is illustrated in the following states picked at random, the rates in 1920 and in 1935 being used for comparison:

Suicides Per 100,000 Population

Place	1920	1935
Registration Area	10.2	14.3
California	19.7	25.1
Connecticut	11.1	15.6
Florida	5.3	17.2
Kansas	10.6	16.4
Kentucky	7.4	10.2
Louisiana	4.7	7.7
Massachusetts	10.2	13.1
Michigan	9.6	14.2
Mississippi	3.2	6.4
Montana	15.7	18.1
New Hampshire	11.3	13.1
New Jersey	11.6	14.1
New York	11.4	17.0
Pennsylvania	9.1	13.7
Ohio	10.4	15.5
Oregon	13.8	19.4
Tennessee	5.4	9.6
Virginia	5.5	12.8
Wisconsin	10.0	16.7
Rhode Island	9.7	11.5

THE variations in the rates for the entire United States will be given as far as information is available. However, all states were not included in the registration area during the entire periods quoted and as a result the figures given do not actually comprise the entire United States. All figures quoted in the above and following tables are official ones and were obtained from the Federal Bureau of Vital Statistics.

Suicide Rate Per 100,000 for the Entire Registration Area of the United States

YEAR	*RATE*	*YEAR*	*RATE*
1910	15.1	1914	16.1
1911	15.9	1915	16.2
1912	15.5	1916	13.8
1913	15.4	1917	13.1

YEAR	RATE	YEAR	RATE
1918	12.2	1927	13.3
1919	11.4	1928	13.6
1920	10.2	1929	14.0
1921	12.5	1930	15.7
1922	11.8	1931	16.8
1923	11.5	1932	17.4
1924	12.1	1933	15.9
1925	12.1	1934	14.9
1926	12.8	1935	14.3

Effects of Climate

LITTLE correlation in suicidal rates can be found among different areas in this or other countries. For example, the Southern States, such as Mississippi with a rate of 6.4; Florida, 17.2; California, 25.1; and Tennessee, 9.6, show no correspondence. In a similar fashion the rates of the Northern States vary as shown by: Pennsylvania, 13.1; New York, 17.0; New Jersey, 14.1; Rhode Island, 11.5; and Michigan, 14.2. The rate apparently does not depend to any significant degree upon warm or cold climates which are more or less constant and uniform. As will be pointed out later, sudden changes in climate may affect the rate. Adjacent countries such as France and Belgium have markedly different rates, the former for the same year being 21.9 and the latter 12.3.

Seasons

MOST suicides occur during the spring and early summer. In the period during 1919 and 1923 in New York City, the suicide rate was distributed as follows: During July, August and September the rates were less than fourteen. During November, December, January and February the rate was fifteen, and during May and June the rate averaged over sixteen. This same trend is seen in all parts of the country. December as a rule has the highest suicide rate for any month.

Racial Factors

A COMPARISON of the rates in countries with a closely similar racial stock shows wide variations in the incidence of suicides. In a similar fashion the rates of suicides of foreign born, in cities with apparently closely similar conditions, show no correlation of the various groups. However, invariably the foreign born, with an average rate of twenty-one, always exceed the rate of the native born, which usually averages about thirteen. The rate among English emigrants in New York City, Chicago, Philadelphia and Boston over a period of ten years was respectively, 30.6; 17.7; 23.5 and 31.5. However, the rate for children of the foreign born in this country closely approximates the native rate and is only slightly higher when one of the parents is of foreign parentage. As a rule countries of Northern Europe have a higher rate than the Southern ones, but there are tremendous variations among each group for different areas with approximately similar factors. In some cases these variations appear to be related to local conditions, but for the most part, personal rather than national influences seem to play the greatest part. Native born in the United States in 1920 had a rate of ten; foreign born, twenty-nine, and Negroes, eight. The latter have a constantly lower rate than white natives. Of the emigrants, Austria, Denmark, Hungary, Germany, and Czechoslovakia have a high rate of forty to fifty. However, the Irish, Poles, Italians, Russians, Greeks and English have the lowest rate amongst emigrants.

Religion

STATISTICAL data in this field are rather difficult to obtain. However, statistics obtained and quoted are taken from those of Germany, where Catholics have, at the present time, a rate much lower than that of Protestants or Jews. However, the variations have been erratic for different periods and for different portions of the country. Seventy-five years ago the situation was noted as being much different, with the Jews having the lowest rate, followed by the Catholics and Protestants. Spain, Ireland and Italy, which are almost preponderantly Catholic, have a low rate of ten or less, while France, which is largely Catholic, has a high rate of over twenty. Predominantly Protestant countries like Germany, Sweden and Denmark have a high rate of twenty, while Protestant Norway, England and Wales have rates of only five to ten. It is thus obvious that, at the present time, religious influences play less part than in the past. However, amongst Jews and Catholics this may prove an inhibiting

influence, but for the most part this plays a lesser rôle than environmental factors. The following is a quotation taken from the Catholic Encyclopedia on suicide:[3]

"Positive and direct suicide perpetrated without God's consent always constitutes a grave injustice towards Him. To destroy a thing is to dispose of it as an absolute master and to act as one having full and independent dominion over it; . . . . God has reserved to himself direct dominion over life; . . . . Consequently, suicide is an attempt against the dominion and right of ownership of the Creator . . . . That suicide is unlawful is the teaching of the Holy Scripture and of the Church, which condemns the act as a most atrocious crime, and, in hatred of the sin and to arouse the horror of its children, denies the suicide Christian burial."

A part of the low rate among Catholics is undoubtedly due to the positive attitude against suicide which the Church teaches.

To the orthodox Jew of Europe, also, suicide is sinful. Suicides are not buried in the same cemetery as other Jews, but are given graves near the fence, and certain prayers are omitted from the burial services.

While Protestant churches and nations formerly had similar penalties, they have tended to repeal or to disregard them.

Urban and Rural Factors

RATES in cities of ten thousand are consistently higher than those of rural centers. The former usually average about twelve and the urban about 8.5. Also, the rate in cities of over one hundred thousand is higher than in smaller centers but not invariably so. The rates in large cities also vary considerably. For 1920 the rate in New York City was 16.4; for Chicago, 19.0; Philadelphia, 15.4; Boston, 16.7; San Francisco, 38; Los Angeles, 28.2; Cincinnati, 18.8; New Orleans, 16.5; Baltimore, 16.5; Rochester, 15; Detroit, 14. However, in 1911 the rates for New York City, Chicago, Philadelphia and Boston were 8; 9.4; 9.3; 12.27, respectively. It is possible that the low rate in the South may be due to the largely rural population with its consequent greater peace of mind resulting from less strife and conflict over changing situations. As a rule, cities which have had a rapid increase in population have shown the highest increase in the suicide rate.

Civilization

AMONG primitive races and in illiterate communities the rates are exceedingly low for suicides motivated by personal reasons. However, suicides may frequently occur when influenced, as a matter of custom, by religious ceremonies or as punishment. This has been designated as the institutionalized type of suicide. It is possible that the lack of conflict or changing of local organizations, the presence of uniform social standards, the blind adherence to customs, the lack of economic rivalry, and the tribal provision for family and food result in fewer psychic disturbances. Doubts and fears and plans for the personal future are thus needless since these are cared for by the community and not provided entirely by the individual. However, in the more highly organized social groups of primitive people, there is demonstrated an increasingly higher rate, but this does not, by any means, approximate that of the so-called highly civilized groups.

Age

THESE figures are taken from the Department of Public Health of Chicago for the period of 1915 to 1924 and give rates of suicides per 100,000 population:[4]

Under 20	1.3	60-69	45.7
20-29	14.7	70-79	57.3
30-39	21.9	80 and over	60.28
40-49	30.4	Average all ages	17
50-59	37.9		

Thus it can be seen that there is a gradual increase in the relative number of suicides with increasing age. Suicides under twenty are relatively quite uncommon. Illness and a sense of failure or futility seem to be the outstanding factors in old age. In middle life, emotional situations such as love or marital conflicts are the commonest causes of suicides. The largest number of suicides occur between the ages of twenty and sixty when the population is considered as a mass group instead of broken up into individual age groups.

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Sex

IN this country and in Europe it is consistently demonstrated that the suicide rate among men is usually three times that among women. In this country in 1910 there were 29.5 suicides among women to every hundred men. In 1920 the rate was approximately 38.1 females to every hundred male suicides. Marriage and family life tend to lower the rate. The rate for the divorced is about five times that of the average rate, while that of the widowed is usually two to three times the average rate. However, the latter have a much higher suicide rate than that noted among the unmarried. The presence of children tends to lower the rate among married and widowed. In divorced males the rate is also decreased when children are present but it is increased among female divorcées, possibly because the child is so frequently given to the father. It may also be due to the usually closer identification of the mother with family life.

Economic Situation

THE Negroes probably comprise the least wealthy class in the country and yet their suicide rate is always less than that of the native born whites and the foreign born. The suicide rate among the poor is found not to be so high as that among the wealthier classes. It is felt that as long as they are accustomed to their poverty, it, of itself, presents no acute problem since they have grown to expect little and are accordingly not disappointed when more is not forthcoming. However, during economic or social reorganizations or changes, these static conditions are changed and give rise to consequent conflict, fear, depression and unusual strivings. These may lead to a desire for death or to the actual commission of the suicidal act. It would appear that it is not the usual situation which leads to suicidal acts, but the loss or alteration that is the precipitating factor. A survey[3] of suicides in general business shows that there is a possible correlation between economic trends and male suicides, but little, if any, in the case of female suicides. Similarly, with the better business conditions during war, there is a lessened incidence of male suicides. This may be seen in one of the previous tables showing the annual rate in this country. The rate continued more or less stationary from 1910 to 1915 and then was followed by a sharp decline which continued until 1921 and showed little change until 1928. The rate at this time began to rise and reached a maximum of 17.4 in 1932. Since then it has slowly been falling and has again reached approximately the original rate present in 1910. Zilboorg, however, disputes these findings and claims that there are more suicides in the days of prosperity than in the periods of economic depression. However, the statistics investigated by the writer do not appear to substantiate this conclusion. Miner[4] gives the following table of suicide rates among the different occupational groups in Italy and Bavaria:

Suicides Per 100,000 of Each Occupation In Italy (Average for four years)

Priests and monks	6
Farmers, foresters, and shepherds	9
Fishers and mariners	11
Spinners and weavers	20
Professors and teachers	24
Servants	30
Barbers	34
Printers and binders	34
Soldiers and sailors	37
Physicians	41
Police and inspectors	43
Capitalists	48
Hotel and café personnel	48

Suicides Per 100,000 of Each Occupation In Bavaria (Average for four years)

Agriculture and forestry	13.7
Mining and manufacturing	34.8
Commerce	48.0
Personal service	19.0
Care of the sick	18.9
Military and police	31.3
Education	23.0
Officials	45.4
Church Officials	13.2
Art, literature, journalism	56.7

Mental Disease

IT would appear from information at hand that not all cases of suicide are due to mental disease. The coroner, for lack of other apparent causes, will frequently place the cause of death as due to suicide while temporarily insane.

From various information at hand it would appear that about 20-30 per cent of suicides may be labeled as definitely psychotic. Probably many of the other cases might be placed in this class if a proper history was at hand. It seems very possible that, had these individuals been seen by a capable psychiatrist, many of the incipient or even fairly severe mental disorders would have been discovered. Laymen are all too prone to minimize the extent of abnormal behavior, especially if the change has been a slow process.

In the majority of psychotics the psychopathology is more or less similar. It consists of an identification of the individual with the hated or feared object. In psychoanalytical terminology this may be termed a fusion of the narcissistic ego with the object libido, leaving a hybrid containing both parts absorbed into a common component. The individual futilely strives to eject the foreign and conflicting portion. As an outward expression of this unconscious and inner conflict there may be seen symptoms which emerge as vague fears, anxiety, depression or hypochondriacal complaints. There may also be ideas of sin or self condemnation. The latter arise and are directed against the whole organism, since the individual has been unable to separate them. These are aimed as a death thrust against a state which is destroying the mind and body. Suicide in these cases is a final and desperate attempt to destroy the inner foreign canker, by which the individual in some measure gains ascendency, temporary as it is, since by killing himself he also kills the incorporated hated object. Thus, what is obvious as suicide, is psychologically revealed as murder, or a direct death thrust aimed purely and solely at another object. The latter on study usually stands revealed as an individual, whose love has either been refused or made impossible by social or moral conventions. It is, indeed, a very common finding to observe that the situation involves unresolved Oedipus complexes or homosexual urges. The mechanism described so far is the usual factor in most psychotics and may be only recognized during the uninhibited productions of a disturbed psychotic. However, in other cases, especially of dementia praecox, epilepsy and confused delirious states other causes may be present. These may comprise imperative hallucinations or delusions or be the accidental result of a disoriented or clouded state.

MOST suicides in psychotics occurring outside on institution usually take place in cases of involutional psychoses or manic-depressive psychoses, with cases less frequently found in dementia praecox patients, epileptics, alcoholics and arteriosclerotics. It is interesting to note that in a study of suicide in institutions by the writer reported elsewhere[1], almost all the findings previously noted in the general population were found. However, in this study half of the suicides were discovered in cases of dementia praecox, and the remainder mostly in cases of involution melancholia and manic-depressive psychosis. It was a proud commentary on the care given patients in state hospitals when it was revealed that in this study the suicide rate per patient population was less than .02 per cent per year. Practically all cases of suicide were attempted by means of hanging with various articles of clothing or bedding. This is unlike the methods used in the general population, where shooting, poison, jumping from heights, drowning and suffocation were the usual means used.

Summary

1—The influence of various factors in the production of suicide, such as race, age, sex, climate, civil status and religion, as well as many others, has been noted.

2—In both psychotics and so-called normal individuals males commit suicide twice as often as females.

3—Probably 20-30 per cent (possibly much more) of all suicides is due to mental disease.

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REMARKS ON THE TREATMENT OF *Heart Disease*

EDWARD E. CORNWALL, M.D., F.A.C.P.

Brooklyn, New York

FROM the therapeutic point of view, heart disease is chiefly evaluated by the circulatory failure, actual or potential, which it subtends. Circulatory failure is commonly spoken of as heart failure; but the peripheral portion of the circulatory apparatus is entitled to consideration. The generally accepted theory of circulatory dynamics denies to the blood vessels a motive function, conceding to them only a passive rôle in the circulation. According to this theory, the force of the ventricular contractions, alone or with occasional aid of massage of veins by contracting outside muscles and suction of the respiratory vacuum, pushes eleven pounds, more or less, of blood through the vascular circuit, overcoming in the operation the friction resistance generated by the blood mass moving through the vascular tubulature. The total circulation time is estimated to be less than half a minute. The amount of the friction resistance which the moving blood mass overcomes in the capillary portion of the circuit is suggested by the size of the capillary sponge. It is estimated that the capillaries of the muscles alone, if placed end to end, would reach two and a half times around the earth; and the caliber of the capillaries is so small that each cubic centimeter of blood, as it passes through them, spreads out so as to have a surface exposure of about 5,600 square centimeters; and the total capillary surface is estimated to be about 5,300 square meters—more than an acre; and a sliver of muscle the size of an ordinary pin, when cut across, shows about 700 parallel capillaries. These figures are taken from recently published textbooks on physiology.

The question has arisen: Do the ventricular contractions, with the above-mentioned occasional aids, develop sufficient energy to satisfy the dynamic requirements of the circulation as we find it? Or is an extracardiac, supplementary force needed? Vascular peristalsis has been suggested as the source of such supplementary energy; but the vascular peristalsis theory has not been demonstrated to the satisfaction of the general scientific world. My excuse for mentioning it here is that it is still being investigated in some countries; and one is reluctant to believe that the final word on circulatory dynamics has been said; and the theory seems to throw light on some dark places in circulatory physiology and on the operation of some therapeutic procedures.

I WILL now say a few words on a practical subject which seems not to have received from the medical profession generally the attention which its importance deserves. I refer to the therapeutic uses of strophanthus.

The statement has been made, and widely repeated, that the physiological action of strophanthus is the same as that of digitalis. And the general impression seems to be that strophanthus is a sort of inferior digitalis. But Vaquez says: "Strophanthus is the heart medicine *par excellence*, the effects of which are exerted exclusively on the myocardium without intervention of any other factor." And Hare says that strophanthus acts as a stimulant to the heart muscle, but does not slow the heart by any action on the vagus, as digitalis does.

Part of a discussion before the South Brooklyn Medical Society, April 14, 1938.

And Cushny says that while a rapid heart which has been slowed by digitalis recovers part of its former rate after administration of atropine, a heart similarly slowed by strophanthin shows no increase of rate after administration of atropine. And Vaquez describes a heart, after administration of a lethal dose of strophanthus, as "rigidly contracted," while Hale White describes a heart, after administration of a lethal dose of digitalis, as "relaxed in diastole."

Vaquez also says that strophanthus becomes "fixed in the myocardium like a stain or a toxin," after which, "the fibers react more easily to the contraction, owing to the fact that the myocardial tonicity has returned to the normal." Digitalis appears not to have such a direct effect to increase myocardial contractility, at least in mammals. And Hale White suggests, as an explanation why in mammals poisoned by digitalis the heart stops in diastole, that in them the vagus effect predominates. Vaquez also says that digitalis, "physiologically speaking, is not a heart tonic, as it has been called." And Lewis says: "To the heart, foxglove is not tonic, but powerfully hypnotic." And Robinson quotes Cohn and Levy to the effect that the administration of "strophanthin had little or no effect on the form of the T-wave" of the electrocardiagram, which is regularly changed by digitalis.

The effect of strophanthus on myocardial conductivity is to depress it, but not, it would seem, to the extent that digitalis does. Digitalis, we believe, depresses conductivity both by local action on the myocardium and by stimulation of the vagus. To this action is ascribed its remarkable power in correcting the impediment to the circulation caused by auricular fibrillation. Lewis says that "the reduction of accelerated ventricular rate is the only important action of this drug of which we have knowledge. Those who regard digitalis as a cardiac tonic mistake its character; its chief action is to slow the heart." And Mackenzie says: "It is to be observed that [slowing the heart by digitalis] rarely occurs in any other conditions than auricular fibrillation and flutter."

Regarding the effect of strophanthus on myocardial excitability, Vaquez says, "extra systoles are exceptional." But I have seen pulsus bigeminus develop after prolonged administration of strophanthin in full doses.

On the gastro-intestinal tract strophanthus in sufficient doses causes anorexia, nausea, vomiting and diarrhea.

The action of strophanthus on the musculature of the blood vessels might be inferred from its action on the cardiac musculature, with allowance for the differences in anatomical arrangement.

In regard to the elimination of strophanthus, Vaquez says: "It is more rapid than that of digitalis, but it is not known how it occurs; . . . and on account of its rapid disappearance, it has no cumulative effect."

It would seem that the physiological action of strophanthus overlaps that of digitalis only in its effects on conductivity and excitability.

STROPHANTHIN, the active principle of strophanthus, appears in several forms, which differ somewhat in toxicity. This fact creates a difficulty in the matter of the dosage. I have tried to get around this difficulty by always using the same form and make of strophanthin. This is an amorphous strophanthin, derived from *Strophanthus Kombé*, which conforms to the requirements of the United States Pharmacopeia and has been physiologically standardized.

The doses which I have learned to use of this particular strophanthin differ somewhat from those given in the textbooks which I have seen: they are generally smaller. They range from grain 1/1000 to grain 1/100. Grain 1/1000 is considered a small dose, and is given three to six times daily, sublingually. So given it can be continued indefinitely in most cases without producing toxic symptoms. Grain 1/500 given sublingually, three to six times daily, is considered moderate dosage; but grain 1/500, given hypodermically three times daily to every four hours, is considered full dosage. Grain 1/250, given hypodermically, intramuscularly, or intravenously, is considered a large dose, which can be repeated only a few times, and which must be watched carefully for toxic symptoms. Grain 1/100 is the maximum dose, which is given by the

more direct methods; it is reserved for grave emergencies; and it can not be repeated inside of twenty-four hours. It rarely happens that larger doses than grain 1/250 are called for. Toxic effects of the drug are not often met with when it is given as here described. There are, however, a few individuals who seem to have an idiosyncrasy to this drug.

THE thesis being accepted that strophanthus acts directly on the muscular tissue of the circulatory apparatus, the necessity of getting it to its anatomic and therapeutic destination by the easiest route and with least loss of substance is obvious. The stomach route is considered undesirable because it exposes the drug to the vicissitudes of contact with the stomach contents and an extensive surface, which would bring it about that the portion of the dose reaching its proper destination would be small and uncertain. The intravenous route is the most direct; and after that, the intramuscular, hypodermic and sublingual routes. The intramuscular and intravenous routes may well be reserved for the very severe cases and emergencies. In many of the severe cases, however, the hypodermic route suffices. In the mild cases the sublingual route suffices. The efficacy of the sublingual route has been questioned; but I have been convinced of its efficacy by an extensive clinical experience.

It has been stated that the hypodermic injection of strophanthin produces local irritation and pain. I have not been much impressed by this clinical feature. By making the solution used in the injection comparatively dilute, local irritation may be lessened.

The indications for the therapeutic uses of strophanthin are suggested by its physiological action. It is indicated wherever increased activity of the cardiovascular musculature is wanted. That means, as I understand it, myocardial degeneration, acute and chronic, with circulatory failure; as in fatty and fibrous heart, hypertensive heart, the insufficient heart of coronary disease, the insufficient heart of chronic valvular disease with a regular rhythm, with certain exceptions, and some cases of auricular fibrillation.

TO sum up. In using strophanthus, the preparation, the manner of administration and the dose are of the utmost importance. It should not be given by mouth to be swallowed, but only sublingually, hypodermically, intramuscularly and intravenously, the first two methods sufficing in most cases. It should not be given for a specific effect, as digitalis is given, but in doses graduated to meet as nearly as possible the degree of the circulatory insufficiency. It should not be given immediately after digitalization. It should not be given after the appearance of notable toxic symptoms. When given continuously for long periods, the dose should be small.

Allusions have been made to the dangers of strophanthus medication. Judging from my own experience, these dangers can be largely discounted if the drug is given carefully as here described.

Besides digitalis and strophanthus, there are some other drugs which are used with advantage in the treatment of heart disease and circulatory failure. I will mention only one of them, caffeine, and will refer to only one point in its use, viz., the relief of nocturnal dyspnea in circulatory failure, and especially that observed in advanced myocardial degeneration. Caffeine given in small doses may prove of great value in this condition, acting probably by stimulating respiration; but large doses are to be avoided.

Drugs have a place, and an important one, in the treatment of heart disease and circulatory failure, but not the first place. That belongs to rest and diet.

IN closing, I will say a word about one phase of the diet. The medical world has recently become very much vitamin conscious. It is possible to overdo vitamin therapy. But there is one possible vitamin deficiency which should not be overlooked, viz., that which is invited by a restricted diet. A restricted diet limits the food range and the field of vitamin supply. It often happens that some cases of circulatory failure require a restricted diet. It is not enough to give extra sugar in these cases; the vitamin rations should be safeguarded.

1218 PACIFIC STREET.

SPECIAL ARTICLE

Clinicopathologic Conferences OF THE LONG ISLAND COLLEGE OF MEDICINE

Brooklyn, N. Y.

CASE II

A FIFTY-TWO-YEAR old unmarried male American office worker of German extraction entered the Long Island College Hospital on April 18, 1938, complaining of exertional dyspnea and a sense of tightness in the left chest.

Five years before entry the patient had been told that his blood pressure was over 200. Four years before admission patient remembered that once, after nearly drowning, marked shortness of breath had followed, along with a sense of constriction in the left chest. Two years before admission he had a similar attack after walking in the cold and he consulted his family physician. The doctor told him that he had high blood pressure and recommended a vegetable diet. One year before entry into hospital patient visited another physician, who advised rest and prescribed theobromine. At this time exertion only slightly in excess of usual routine was causing a sense of substernal pressure.

For about a year he did well, but he began to have more palpitation which would be brought on by much less exertion. A few days before admission patient had hurried home through the rain and this gave rise to a very severe attack of dyspnea. Ever since this he had had dyspnea after much milder exercise. The night before, an attack of dyspnea occurred while at rest in bed. The day of admission marked shortness of breath and rather alarming palpitation came on after climbing a flight of stairs, and he went to bed to rest, where he had a profuse diaphoresis. Twice subsequently, on the day of admission, the patient climbed the same flight of stairs without too much difficulty. He went to see his doctor and was advised to come directly to hospital, which he did.

There had been no ankle edema. Nocturia (2x) had been present for several years, but there had been no diurnal frequency, polyuria or hematuria. No history was obtained of headache nor tinnitus.

There was a past history of chorea at the age of twelve lasting for two months. The patient did not smoke. He took only an occasional glass of wine or beer.

Admission findings

T 99.6° P 88
R 24 BP 158/100

The patient was distinctly overweight and seemed slightly cyanotic. The right fundus showed slight tortuosity of the terminal arterioles but no pinching of the veins. The disc was normal and there were no hemorrhages nor exudate. The left fundus differed only in showing some arteriovenous compression and the veins were full and pulsating. Neck veins were not distended. Lungs were clear. Heart was enlarged, the PMI just lateral to midclavicular line, and the limit of relative cardiac dullness 14 cm. to the left of midsternal line. Rhythm was regular. At the apex sounds were fairly good. A soft systolic murmur was transmitted into the axilla. At the base the second aortic sound was increased in intensity with a short systolic murmur transmitted into the vessels of the neck. The radial arteries were soft. Liver was not enlarged. There was no peripheral edema. Other physical findings were essentially normal. The admission diagnosis was hypertensive heart disease and arteriosclerotic heart with angina pectoris.

Laboratory data: Blood count: Hgb. 91 per cent (Sahli); RBC 4.6 millions; WBC 8,200 with normal differential.

Clinicopathologic Conference of July 7, 1938. Case presented by Dr. Tasker Howard, Professor of Medicine. Anatomical diagnosis by Dr. Jean Oliver, Professor of Pathology.

Urinalysis: Sp. gr. 1.020; albumin two plus; microscopic: WBC 4/HPF, no casts seen. *Blood Kahn and Hinton:* Negative. *Blood chemistry:* Urea nitrogen 16.1 mgm. per cent; uric acid 2.7 mgm. per cent. *EKG* of April 21: (q.v.): "QRS slurred in lead I, wide and notched in III and wide in IV. T waves are diphasic in leads I and II and inverted in IV, indicating ventricular myocardial disease. Ventricular premature beats are present."

Course in Hospital

FOUR days after admission, on April 22, temperature rose to 102.2°, pulse being 120. A gallop rhythm was present and there were signs of bronchopneumonia at the right base posteriorly. Temperature rose gradually to a peak of 103.6° on April 24th; then over a ten-day period slowly sank to normal. The signs at the right base increased with the fever and largely cleared with defervescence.

On the sixteenth day in hospital, May 3, the patient developed a slight fever (100°). That night he was kept awake by pain in the left lower chest and left upper abdomen. The pain was increased by cough and made worse by lying on the right side. The following day, May 4, temperature was 101.8° and white count 18,200 with 88 per cent polymorphonuclears. There was dullness of slight degree at the right base with bronchovesicular breath sounds and a few râles. A few râles were present also at the left base. Next day, May 5, the patient complained of inability to breathe. Lung signs were about the same. There were many premature systoles. May 6 temperature reached 102°.

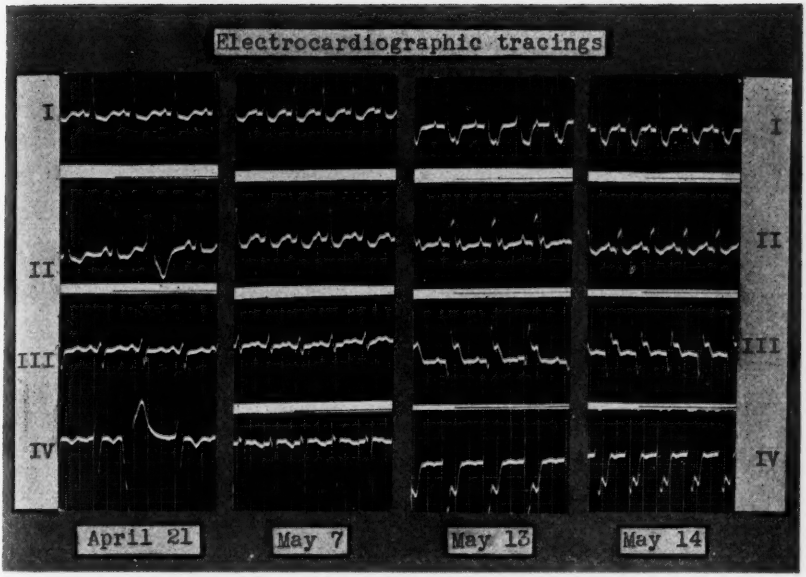
A clinical note of this date says: "For some days patient has had a striking tendency to sweat. His mental condition seems much less toxic than would be likely were his fever due to a pneumonia." A bedside chest x-ray May 7 showed an enlarged heart, a well-aerated left lung, but throughout the right lung field scattered mottling, most marked in the lower medial portion, indicating a pneumonic process. EKG of the same date (q.v.) was read in these terms: "QRS slurred in first three leads. Abnormally low R-T transition in leads I and II. T waves inverted in leads I and II and diphasic in IV, indicating ventricular myocardial disease." The clinical notation dated May 7 is as follows: "A_2 is decidedly sharp, making aortic valvular involvement unlikely . . . X-ray shows a large mitral heart and a bronchopneumonia largely limited to the right. The general picture strongly suggests a true myocarditis superimposed upon a heart with a slight rheumatic lesion of the mitral valve plus coronary insufficiency but no occlusion."

From this time onward the patient's condition deteriorated. Temperature remained elevated, gradually mounting to 104° on May 15 just before exitus. On May 10th the limit of relative cardiac dullness was 14.5 cm. to the left of the midsternal line. A patch of consonating subcrepitant râles appeared opposite the spine of right scapula. EKG taken May 10 showed changes in the R-T segment highly suggestive of myocardial infarction but interpreted conservatively simply as indicative of ventricular myocardial disease.

A new clump of crackling subcrepitant râles appeared on May 13 in the left upper lobe between the second and fourth ribs. EKG of the same date (q.v.): "Two-to-one heart block. QRS wide in first three leads. The rate varies due to intraventricular conduction disturbance. A deep Q_3 present. Low R-T transition in lead I. High S-T transition in III. Low S-T transition in IV. T waves inverted in leads I & II indicating ventricular myocardial damage due to coronary artery occlusion involving the A-V conduction system." These EKG findings were confirmed in essential respects May 14 (q.v.), but sinus tachycardia had replaced the two-to-one block. Vomiting developed followed by hematemesis. On May 15th at 10:20 A.M. the patient expired.

Discussion

Diagnosis All agreed that the patient was suffering from two kinds of heart disease, but there was disagreement as to whether the suggestion made May 7, that rheumatic heart disease also was present, was warranted. With the clinical history of angina pectoris and the EKG evidence for coronary occlusion, this latter complication seemed almost certain. The patient at no time experi-



enced sharp precordial pain or shock and some question arose as to whether the accident had preceded hospital admission or whether it had occurred during the night of May 3-4, though unsuspected at the time.

Pulmonary Changes The first pulmonary episode resembled bronchopneumonia, but the later events suggested infarction.

Final Clinical Diagnosis Hypertensive heart disease; arteriosclerotic heart disease; coronary occlusion; myocardial infarction, posterior wall and septum; rheumatic heart disease (mitral lesion); cardiac hypertrophy; infarcts of lung, multiple; convalescence from bronchopneumonia suffered 3 to 2 weeks before death.

Pathological Report

Externally the body shows no evidences of circulatory failure such as edema or congestion.

In the peritoneal cavity and in both pleural cavities there are about 100 cc. of thin fluid. The pericardial cavity contains 30 cc. of similar fluid.

The heart weighs 800 grams, more than twice the normal weight. The chambers on the left are moderately dilated, but those on the right are free from dilatation. There is an area, 15 x 15 x 1 mm. in size, of fibrous thickening involving the left ventricular epicardium near the apex. The right auricular appendage contains a firm white adherent thrombus 2.5 x 1.5 x .8 cm. in size. The pectinate muscles are moderately hypertrophied. The tricuspid valve is normal. The right ventricle is 5 mm. thick; the trabeculae carneae are moderately hypertrophied. The myocardium is normal. The pulmonic valve is normal.

The left auricle is moderately dilated, and its wall is moderately thickened. The auricular appendage is free from thrombi. The mitral valve is free from stenosis and significant stiffening, but its leaflets are somewhat thickened by fibrous tissue; vegetations are absent. The chordae tendineae, though not shortened, are slightly thickened. The left ventricle is 16 mm. thick opposite the base of the anterior papillary muscle. The trabeculae carneae are markedly hypertrophied and the ventricular lumen

is moderately dilated. The posterior half of the left ventricular wall and posterior half of the interventricular septum present extensive areas of yellow and red discoloration which extend irregularly from epicardium to endocardium. This involves the endocardium only in the posterosuperior portion of the ventricular wall, where there is a small fragment of attached clot 1 mm. in diameter. The aortic valvular ring is 7.5 cm. in circumference. The aortic valve is not significantly stenotic, but is stiffened to a moderately marked degree by fibrous tissue and calcified deposits. The commissural borders of two of the cusps are fused for a distance of 1 to 3 mm. On their aortic surfaces the valves present numerous calcified plaques and nodules, one of which is globular and 7 mm. in diameter.

The left coronary artery presents a moderate number of yellow intimal plaques, and is in part slightly calcified, but thrombi are absent. The right coronary artery has similar changes in its wall. In the first 4 cm. of its course its lumen is completely filled by an adherent grey thrombus. Distalward the lumen is partially filled by unattached soft red clot.

IN both lungs there were several circumscribed recent areas of hemorrhagic infarction. No areas of inflammatory consolidation could be seen grossly.

The spleen was somewhat enlarged. Throughout it were numerous recent yellowish infarctions. Both kidneys also showed recent anemic infarctions. There was an extensive atheroma throughout the aorta.

Microscopic examination showed a necrosis of the heart muscle in the discolored areas in the left ventricle and septum. Throughout the remaining living cardiac muscle there were irregular areas of fatty change in the muscle cells. The right coronary artery showed an extreme atherosclerosis and was filled with a recent as yet unorganized ante-mortem thrombus. No significant pneumonic lesions were found in the lungs. The small arteries in the kidney, pancreas, and adrenals showed a moderate fibrous thickening of their intima.

The final anatomical diagnosis was as follows:

1: Arteriosclerosis, general.
2: Arteriosclerosis of coronary arteries, severe.
3: Thrombosis of right coronary artery.
4: Infarction of heart.
5: Thrombosis of heart, mural.
6: Enlargement of heart, due to hypertrophy.
7: Enlargement of heart, due to dilatation.
8: Fibrosis of heart valve, postinfectional (rheumatic, healed).
9: Embolism of renal and lienal arteries.
10: Infarction of spleen, kidneys, and lungs.

Gist

1. Three types of heart disease may coexist in the same individual.

2. Coronary occlusion not only may occur in a patient at complete rest but also may occur without pain of significant degree.

3. An acute infection (bronchopneumonia in this case), like a surgical operation, may precipitate thrombosis in an atheromatous coronary artery.

4. Embolic phenomena in a patient with arteriosclerotic heart disease should suggest the possibility of coronary occlusion.

EDITORIALS

—Concluded from page 420

tionship really ought to be. Imagine what the reaction of the older men to such proposals would have been—if you can conceive of them being made in a world which valued such a relationship at exactly its proper worth. It is because of the passing of such men, and their way of life, that it has become possible for uplifters to agitate for mass-production, impersonal medicine. Inevitably, there is talk now about medicine as "a public utility."

Associated Physicians OF LONG ISLAND

AUTUMN MEETING OF ASSOCIATED PHYSICIANS OF LONG ISLAND WILL BE AT LIDO CLUB, SEPT. 29, 1938.

THE autumn meeting of the Associated Physicians of Long Island will be held Thursday, September 29, 1938 in the Lido Club at Long Beach. This date is the fifth Thursday of the month and has been selected because it does not conflict with other meetings as far as the committee can determine. The Lido Club is a popular spot for an outing because it combines golf with scenic beauty of the Atlantic Ocean, together with adequate facilities for the scentific meeting and the dinner.

The scientific program has been prepared by the staff members of Meadowbrook Hospital which is the county hospital of Nassau.

1. Case of Longitudinal Sinus Thrombosis, by D. E. Overton, M.D., discussed by H. R. Merwarth, M.D.

2. Remarks on the Conduct of Labor, by G. B. Granger, M.D., discussed by Sidney Smith, M.D.

3. Thyroid Disease from the Surgical Standpoint, by A. S. Warinner, M.D., discussed by Edwin H. Fiske, M.D.

4. Coronary Thrombosis, by Louis H. Bauer, M.D., discussed by J. Hamilton Crawford, M.D.

The after dinner speaker will be recruited from our own membership, for we have one whose motion pictures in color are of the highest quality. Dr. Wendell Holmes of Hempstead will exhibit the highly entertaining films which he took on a Mediterranean cruise.

Please save the fifth Thursday of September to have a grand outing on Long Beach and renew your acquaintances from the four counties of Long Island.

AUTUMN OUTING
A. P. L. I.
Thursday, Sept. 29.

EDITORIAL REPRESENTATIVES

The following Representatives of the Associated Physicians of Long Island are now cooperating editorially with the MEDICAL TIMES—

Dr. Thomas B. Wood, Chairman

Dr. Frank Overton
Dr. Harold R. Merwarth
Dr. Carl Boettiger
Dr. D. Edward Overton

Cultural Medicine

Johann Friedrich Struensee, M.D.,

DICTATOR OF THE EIGHTEENTH CENTURY DANO-NORWEGIAN STATE

That one may smile, and smile, and be a villain!
At least I'm sure it may be so in Denmark.
—Hamlet i, v.

HAMLET the Dane was a philosopher who, considering the rotten state of Denmark, thought only of "cursed spite." Struensee, a philosopher and ruler in the eighteenth century, thought he was a *deus ex machina* born to set it right. Here is a contrast in Danes for one to contemplate.

The Ophelia in each case tears one's heartstrings. In each instance there is a tale "woven of rainbows on a ground of eternal black." The woman who figured so tragically in Struensee's life was Caroline Matilda, Queen of Denmark and Norway, and favorite sister of George the Third of England. Some see her as the Mary Stuart of Denmark. Daughter of a half fool and half rogue father (Frederick, Prince of Wales) and of a puritanical mother (Augusta, daughter of the reigning Duke of Saxe-Gotha), one may seek in her immediate ancestry and training some of the sources of her failings.

Struensee exemplified Nietzsche's *uebermensch*, "the man who lives only for himself and allows neither human feeling nor moral law to stand in his way." His medical training at Halle in the eighteenth century in a way fostered this intellectual attitude, for at that time the iatromechanical school taught that the body is only a machine, the soul merely a name for the sum of our sensations, and death the end of all.

The creaking and benighted, albeit powerful, Dano-Norwegian state, ruled by a half-crazy King, seemed to Struensee a perfect laboratory in which to put into effect the ambitious plans whereby he had for long hoped to play a great part in the new era of intellectual enlightenment.

Struensee was one of that galaxy of medical men who in history have figured brilliantly now and then in the political arena. Here one thinks of Baron Stockmar, Virchow, Clemenceau, Sir Auckland Geddes and others. They form a distinct and distinguished genus in the profession. The simple routine of our lives is not the whole of things for them.

What a life was Struensee's! The very name of the man means "wild, dark and stormy sea." Moral cripple, superman, political chiropractor or political genius —whatever one chooses to call him— Struensee must be accorded a place among the most remarkable men in history. What a precocity it was that in the eighteenth century whipped 1069 white rabbits out of a dictator's hat in ten months, in other words, edicts affecting every department of the state;

From the Editorial Research Department of the MEDICAL TIMES.

that preoccupied itself with the underprivileged masses; that instituted a Public Works Administration to set the unemployed to work building more ships —which incidentally served as a gesture intimidating to Russia, which had threatened to send six ships of the line and four frigates to bombard Copenhagen by way of that "Danish Sea," the Baltic. This firmness stands to the credit of his administration, for it served to free Denmark from all foreign interference. What genius and logic there were in the tax on the profits of Denmark's innumerable houses of prostitution wherewith to create a hospital for the treatment of persons suffering from venereal diseases. Meanwhile an irresistible smile disarmed most of the people all of the time.

There doesn't seem to have been any "brain trust." Struensee supplied all the cerebral requirements of his New Deal. No fireside chats were feasible in those days—what a handicap! But no relief workers' votes had to be bought through devious bureaucratic chicanery. Struensee did have to be both Dr. Jekyll and Mr. Hyde. Oh, he had his advantages and disadvantages in effecting a "sharing of the wealth" and conferring a "more abundant life" upon the exploited masses.

✚

STRUENSEE was born at Halle, Saxony, August 5, 1737. His father was a Lutheran clergyman whose rigid pietism and puritanic discipline conditioned the boy for the liberalism of Rousseau, Voltaire, Helvetius, Leibnitz and Goethe. His mother was the daughter of a physician to King Christian VI. of Denmark. Struensee entered the University of Halle at the age of fourteen and took the degree of Doctor of Medicine before the completion of his twentieth year. He became public medical officer in the then Danish city of Altona, his father having been appointed to an office in that part of the realm equivalent to a bishopric. Struensee's antecedents were German and he never properly learned the Danish language. When, in a moment of triumph as Dictator, the mob gathered around his carriage, Struensee was unable to address it, so the high-powered smile alone had to suffice. In Altona he edited a radical magazine which satirized, significantly enough, the political and social state of Denmark.

In Altona friendships were formed with Brandt and Rantzau, men of important rank who later played parts in Struensee's "kitchen cabinet." Struensee's extravagant tastes finally involved him in debt and he was thinking seriously of leaving the city for the East Indies when in 1768 King Christian VII. of Denmark passed through the town, and, needing a physician to care for his mental and physical ailments, fatefully engaged Struensee to serve in his traveling suite, upon the recommendation of Rantzau and Holck, a favorite of the King whom Struensee had met. So, in the person of the King, Struensee met his Mephistopheles.

Under Struensee's ministrations the King's health improved on this trip and Struensee gained great influence over him. Struensee was granted honorary degrees at Oxford and Cambridge and upon the party's return to Denmark in 1769 Struensee was made Physician-in-Ordinary to the King and very soon thereafter a Councillor of State, as such becoming a member of the third of the classes having a Court status.

Struensee's residence at the Danish Court gave him an insight into the statecraft of the country, then united with Norway and some of the present-day Germany (e.g., the Schleswig-Holstein duchies), particularly with relation to Russia. The young and beautiful Queen was completely neglected by the dissipated and partially demented King and by everybody else — save Struensee!

The marriage of the epileptic King to the charming and accomplished girl of fifteen who was destined to become the instrument of Struensee's ambition was a purely political one. After the birth of a son, the future Frederick VI., there was no pretense of love and the ill and lonesome Queen, with no friends at Court, found in Struensee a strong and too attractive supporter, for Struensee was as charming to women as he was ambitious and able in dealing with men.

The King was a wreck—although he lived to old age—and Struensee perceived that through the love of the common people for their charitable Queen a political party might be formed and the Queen perhaps made Regent. The child Queen fell completely under his fascination—body, soul and mind. And she was supremely happy. Struensee's successful treatment of the royal heir's smallpox, in the course of which the Queen personally nursed her boy night and day, completed the attachment.

Now comes the master stroke—reconciliation of the King and Queen. Remember that Christian was hereditarily the most absolute, indeed despotic, of European monarchs. Struensee set the Queen to winning the King's favor, with the aim of reaffirming the royal absolutism, she to govern in the King's name. The plan, as worked out by Struensee, clicked perfectly, his suggestions and her attentions to the imbecile King gaining the royal favor and securing for Struensee a place as Councillor of Conference, Reader and Private Secretary to the King, as well as increasing power over the monarch. Struensee's motto: "All things are possible," seemed well on the way to verification. As the dagger of Macbeth's vision led him on, so Struensee's ambition was like unto that dagger:

Is this a dagger, which I see before me,
The handle toward my hand? Come, let me clutch thee:—
I have thee not; and yet I see thee still.

So hypnotized was the King that he encouraged the intimacy of Matilda and Struensee. So well did the spell work that by the early spring of 1770 the plan was consummated and the King had relinquished all power. Brandt and Rantzau were in high places and the Prime Minister, Bernstorff, patron of the Russian faction, was dismissed. English attempts to influence the course of events were repulsed. Struensee aimed as Privy Cabinet Minister, to which new post he had now assigned himself, to make a Swedish alliance.

A "purge" of all department heads followed and only "yes-men" were tolerated. The rule of Struensee was absolute, despotic, ruthless. He held all portfolios and abolished the Council of State, the only remaining constitutional check. The constitution was now "out of the window." The medical Dictator reigned supreme, with power to act without the royal sign-manual. The King was inaccessible, except through the *maître des requêtes*, to whom all officials reported, that is to say, Struensee himself.

What were Struensee's real purposes? Reforms based upon the philosophy of Rousseau and the encyclopedists, forerunners of the French Revolution. He sincerely wished to make Denmark a model for the rest of feudalistic Europe. He proceeded actually to move toward freedom for the serfs; to deal with monopolies; to repeal the salt tax, so oppressive to the poor; to deprive the nobility and clergy of their power; to shut off bounties to profitless industries; to proclaim religious toleration; to abolish judicial torture and capital punishment for theft; to distribute land to the landless; to reorganize administration solely in the interest of economy and efficiency; to restrict honorary titles; to insure equal justice to all (the nobles had been exempt from arrest for debt); and to create an absolutely free press. Gambling was legalized but heavily taxed; a national lottery was established. Useless offices were abolished. Pensions and salaries were reduced. The marriage laws were radically dealt with: the marriage of divorced persons was legalized, and also of the deceased wife's sister; adultery was punishable only on the appeal of wronged husbands. Illegitimacy was nullified. The building of a huge cathedral, designed to rival St. Peter's at Rome, was stopped, and chapels were converted into hospitals and their chaplains dismissed. The mob was assured of relief, bread and circuses, although all religious holidays were proscribed, to wit—Christmas, Easter and Whitsuntide, the Epiphany, St. John's Day, Michaelmas Day, All Saints, the Purification, Visitation and Annunciation of the Blessed Virgin.

In a word—and in the language of Rousseau—servility was to be exchanged for the dignity of man; or so it was alleged.

Great municipal reforms followed. Streets were lighted. Houses were numbered. Large stores were established.

Finances were improved. The liquor industry was brought under control. Bread was greatly cheapened. Many hospitals were established. The "Morals Police" were abolished, a curious system whereby the Sunday behavior of the citizenry in their private houses had been supervised.

Struensee's medical reforms consisted in unifying the hospitals under a central board of control in the interest of efficiency and economy; the establishment of isolation hospitals; the institution of a rational Pharmacopeia; the establishment of foundling and pediatric hospitals for both legitimate and illegitimate children, with repeal of punitive laws against the parents of the latter.

Johann Friedrich Struensee, M.D.

from an illustration by courtesy of the Surgeon General's Library.

The daughter that was born to the Queen on July 7, 1771, was believed to have been fathered by Struensee. (This child, by the way, was never declared illegitimate, and became the mother of a Queen of Denmark and the great-grandmother of an Empress of Germany.) This was held against Struensee and a conviction gained ground, fostered, it is true, by fraud and conspiracy, that he aimed to destroy the King and his heir, marry the Queen, and make himself a Cromwell or King of Denmark and Norway. A step on his part tending to confirm this was his conferring of the title of Count upon himself, with an elaborate coat of arms and the prefix "von" to his name.

THE final debacle proved to be one of the most terribly tragic in history. Plotters of the old régime, led by the Queen-Dowager, effected Struensee's downfall. A *coup d'etat* was planned and successfully carried out on January 17, 1772, with the connivance of army chiefs who had been subjected to Struensee's military reforms. The Queen, Struensee and their adherents were seized and imprisoned and the King was forced to proclaim a new government. The mob, which had been turned against Struensee by cunning rigging of lottery shares on the Exchange, hailed his downfall.

Struensee betrayed the Queen, when to his astonishment he learned that she was also a prisoner of state, and signed a complete confession, upon which she signed another in the hope of saving his life, so great still was her love. Her divorce followed. A British squadron insured the terms of her liberation. She died at the early age of twenty-three in the castle of Celle, in Hanover.

Struensee was tried for conspiracy against the person and throne of the

King, for high treason against the *Lex Regia* of 1660, and for adultery with the Queen. He was executed on April 28, 1772. He was hauled to his death by the same old mob. Severance of the right hand, decapitation, display of the head on a pike, and quartering of the body followed in due order.

✚

THE country was not prepared for such rapid changes as Struensee had attempted to institute. He worked on purely abstract and too quickly applied principles, without any regard whatever, indeed with complete contempt, for the "prejudices" of the people. Any institution that was old was *ipso facto* marked for scrapping. Struensee shocked without compunction the most sacred feelings of the respectable classes. Since he was a fanatical propagandist of the atheism associated with the *Encyclopédie*, he incurred the universal opposition. his reforms were abolished anu chaos tion of the clergy. Upon his death, all averted. Struensee lacked finesse and was insufficiently experienced in statecraft. Continuous abuse of his benefactions deteriorated his character. What middle-class opinion had at first supported him was soon alienated. His scandalous private life, even in an obscene age, helped to confound him. But when one reflects that he was only thirty-four at the time of his death, and that his public career covered sixteen months, with ten months of absolute sway as Dictator, one must accord to him genius and one of the highest places in history.

✚

THE Scandinavian countries of today can afford to smile at New Deals. They had their political measles long ago and are now immune to adolescent necromancy, puerile magic and expensive charlatanry in the governmental sphere.

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MEDICAL JURISPRUDENCE

Edited by **Gustave J. Noback, Ph.D.**

Secretary of the Society of Medical Jurisprudence

MODERN TRENDS IN *Birth Control*

HANNAH M. STONE, M.D.

New York, N. Y.

BIRTH control, the author states, is now "an accepted social practice." "Social, economic, industrial, cultural, and medical factors make the use of birth control measures a practical necessity in modern life."

Legal restrictions against birth control appear to be of little avail. In France and in Italy the dissemination of information in regard to contraception is prohibited by law; yet in both these countries the birth rate is diminishing. In Germany the work of the birth control clinics is now strictly limited, and there is "intensive political propaganda" for larger families, but the birth rate has increased very little and now seems to be falling again. England has a more liberal attitude toward birth control; there is no law against the dissemination of contraceptive information, and birth control clinics have been established in many cities. In Soviet Russia there is no restriction against the dissemination of contraceptive information; advice in regard to contraceptive methods is given in gynecological clinics, and special birth control clinics have been established in the larger cities. In Iceland, it is noted, physicians are compelled by law to give contraceptive advice when it is requested by a patient, but no person who is not a physician is allowed "to give such directions."

IN the United States, the first birth control clinic was established by Margaret Sanger in 1916, "but was closed by the police within a week." In 1923 she opened a second clinic under medical supervision; and since that time over 300 such clinics have been opened in this country. Many such clinics have been established under the auspices of hospitals or health departments.

The Federal statutes, it is true, classify birth control with obscenity and restrict the importation of "contraceptive supplies and literature" and their transmission through the mails. Some State statutes also prohibit dissemination of information in regard to birth control. It was under the New York State law that Margaret Sanger's first clinic was closed. In the decision rendered at that time, Judge Crane ruled that "contraceptive knowledge may be given by licensed physicians for the prevention and cure of disease." This "paved the way" for later birth control clinics under medical supervision. When the Sanger clinic, after its re-establishment in 1923, was again "raided" and three nurses and two physicians, including the author, were

An Abstract

The original article was read before the Society of Medical Jurisprudence on October 11, 1937, at The New York Academy of Medicine, New York, N. Y.

arrested, the case involved the need for the "spacing of pregnancies" on definite medical grounds, and the right of physicians to give contraceptive information on such grounds was upheld.

In another recent case, the Federal statues came up for interpretation on the importation of some foreign pessaries by the author for clinical tests. The right of "a physician to import such articles for lawful use" was upheld by both the District Court and the United States Court of Appeals.

More recently birth control centers in two Massachusetts cities—Salem and Brookline—were raided and charges brought against physicians, nurses, and social workers of violation of the state law. They were found guilty by the Magistrate, but the cases are to be appealed.

✚

IN consideration of birth control, the questions of overpopulation and "underpopulation" are much discussed. The danger of overpopulation appears to be real in some countries at least—notably Japan. The author suggests that "a slow and gradual population increase, one that can be easily absorbed into the industrial economy, or even a stationary population until suitable adjustments are made," may be more desirable than "an uncontrolled and rapid population growth in any country."

But in many instances there are definite medical indications for contraception, if the "spacing of pregnancies" is indicated for health reasons.

In regard to the methods of contraception, the author notes that while clinical contraceptives have been, and are, much used, recent clinical tests and laboratory research have indicated that the clinical contraceptives now available may fail. The vehicle or suppository may not be properly placed to cover the os uteri and form a physical barrier to the passage of the spermatozoa; while the chemical, although actively spermicidal, may not escape or "diffuse" from the vehicle rapidly enough to be effective. Under such circumstances "it is well not to rely too trustingly upon chemical contraceptives alone."

WHAT is urgently needed at present is establishment of an authoritative scientific body to undertake the study and evaluation of chemical products for use as contraceptives. The law of the State of Oregon requires products advertised for sale for the prevention of conception and/or venereal disease to be licensed. Under this law the Oregon Board of Pharmacy has established a special department for testing products. While the standards of this Board may not be "quite adequate," nevertheless the law is "praiseworthy" in that it attempts to establish some criteria for the marketing of commercial contraceptives.

The "safe period" as a means of controlling contraception is also discussed. This depends upon determining the time of ovulation in woman, and also upon the length of survival of the ovum and of the spermatozoa. In the author's opinion none of these factors has been definitely and scientifically established for the human race. Recently, more definite scientific methods for determining the time of ovulation have been proposed. These include the bio-electric potentiometer of Burr and his coworkers, which registers the time of ovulation electrically; and also the method of determining time of ovulation and the "curve" of fertile and sterile periods by recording the daily variations in the woman's body temperature.

VARIOUS "biological" methods have been proposed for temporary sterilization. Chief among these is the subcutaneous injection of spermatozoa into the female. This method has proved successful in animal experiments, but has been but little used in human beings and is not yet developed for clinical use.

For the woman who is able to obtain individual medical advice, methods of contraception can be found that prove satisfactory and reliable. But this does not solve the problem of a large number of women, for whom, because of poverty or "lack of adequate medical service," such individual study and advice is not available. But for such women an adequate contraceptive is often most necessary. For such women a method known as the "foam powder" method is being developed.

—Conclusion on page 444

CANCER

CHARLES WILLIAM BENSHOTOR, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., *German Literature Editor*, and EDWARD PARNALL, A.M. (Harvard), M.D. (Harvard), *Italian Literature Editor*.

Department Edited by
John M. Swan,
M.D. (Pennsylvania), F.A.C.P.
EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

PRIMARY CARCINOMA *of the Lung*

IAN G. MACDONALD, M.D.
Cornwall, N. Y.

Etiology. Carcinoma of the lung affects males predominantly (Habler, one female out of forty-seven cases[1]; Sattler, ten females in fifty-seven cases[2]; Haintz, three times more frequent[3]). Habler[1] found no etiologic relation in coal dust, tobacco smoke, dust, or war gasses in his cases, and only two with a family history of carcinoma. He gives some credence to the theory of congenital epithelial metaplasia. One case is reported (Sergent *et. al.*[4]) of lung carcinoma developing about a metallic foreign body from a 13-year old war wound. Konrad and Franke[5] subscribe to the view that there is no relation to dust, smoking, or occupation.

It seems reasonable to emphasize the fact that the well known Joachimstal and Scheeberg miners' lung cancer may be entirely due to radium deposits[6]. The air in these mines has been shown to contain measurable quantities of radium emanations. The miners themselves have noted that the working of a vein rich in uranium is regularly followed by increased mortality some years later.

ALTHOUGH there has been a tenfold increase in cases of carcinoma of the lung autopsied in the last forty years, Hruby and Sweany[7] believe that there is no valid evidence to prove an increase in the general incidence of the disease. The apparent increase is probably due to a combination of circumstances ranging from increased life expectancy to a better recognition of primary lung carcinoma on the part of the pathologists.

There is no definite agreement as to the association of pulmonary tuberculosis and carcinoma. Sattler's series showed tuberculous cavitation three times in fifty-seven cases[2]. Hruby and Sweany remark[7], as a diagnostic point, that "the sputum will be found free from tubercle bacilli". Derischanoff[8], however, considers the combination to be comparatively frequent, and believes that old fibroid tuberculosis is a chronic irritant of cancerogenic proportions. Ssipowsky[9] reports one case that developed in a tuberculous lung, and another about a chronic nonspecific abscess. Simpson's[10] analysis of 139 cases showed forty-seven with "some evidence of tuberculosis", but only seven with healed tuberculous nodules. It has been suggested (Fried [11], [12]) that the changed "basal" type cells in the bronchus of a tuberculous cavity proliferate along new-formed connective tissue in a syncitial fashion, and that

From the Ogden Memorial Tumor Clinic, Cornwall Hospital, Cornwall, N. Y.

these cells may form the nidus of a future carcinoma. He suggests that progressive loss of weight and strength in any person past middle age with chronic pulmonary infection should suggest the possibility of carcinoma.

RENNER[13] reports a primary anaplastic carcinoma of a bronchus in an indurative tuberculosis of the lung, but feels that no conclusion can be drawn with certainty as to the relationship. In sixty-nine autopsied cases of lung carcinoma Olson[14] found active tuberculosis in 1.6 per cent and healed tuberculosis in only 5.9 per cent. On the present evidence it does not seem that any definite etiologic relationship can be ascribed to preceding tuberculosis. Apparently a statistical study of the incidence of pulmonary cancer at autopsy in large tuberculosis sanitaria is needed to answer this question*.

Syphilis seems to have no causal relationship, the incidence in certain series of autopsy cases being somewhat less than usual.

Associated non-specific pulmonary inflammatory conditions are frequent in autopsy findings. Olson[14] found bronchopneumonia, bronchiectasis, pneumoconiosis, or lobar pneumonia in 58.8 per cent. The majority of these lesions must be interpreted as sequelae of the tumor rather than precursors. It does seem certain however, as in the case reported by Lynch and Smith[15], that pneumoconiosis of long duration is a competent etiologic factor in a small percentage of lung cancers.

Incidence.

THERE is a greater incidence of the disease in urban than rural dwellers. Seelig and Benignus[16] found that in mice exposed to coal soot there was definite hyperplasia of the bronchial mucosa and 8.0 per cent of a tumor resistant strain developed adenocarcinoma of the lungs.

Hruby[7] reports that in a series, from 1897 to 1930, of 185,434 autopsies, there were 22,712 cases of cancer or 12.2 per cent, and 1,355 cases of cancer of the lung or 5.9 per cent of all cancers. Hill[17] states that pulmonary carcinoma forms about 1.0 per cent of all autopsy cases and 8.0 per cent of all cancer autopsies. Bonner[18] estimates that 5.0 per cent to 10.0 per cent of all cancer deaths are pulmonary, although only 3.3 per cent of her own series were such. Olson[14] reported that 9.05 per cent of autopsied cancer cases were primary in the lung. Konrad and Franke[5] believe that both the absolute and relative frequencies of carcinoma of the lung have increased in recent years.

Rosedale and McKay[19] at the Buffalo City Hospital report thirty-seven of 4,670 autopsies, or 9.97 per cent of all malignant neoplasms seen in ten years, were carcinoma of the lung. It was thus third in rank and equal to the number of uterine cancers.

Pathology.

(a) Local Pathology.
(b) Metastases.
(c) Systemic effects.

The correlation of the morbid anatomy of the local and distant lesions with the signs, symptoms and systemic effects produced makes the pathology of lung carcinoma of great importance to the clinician.

(a) ***Local Pathology.*** The great majority of all primary lung carcinomata arise from the bronchial mucosa, frequently from bronchi of the second to fourth order[20]. The cell type depends on the degree of differentiation. In Olson's series of sixty-nine cases twenty-nine were of the squamous cell type, twenty-three undifferentiated, seventeen adenocarcinomata. Samson's analysis of 100 autopsies showed 51.0 per cent adenocarcinoma, 30.0 per cent squamous cell and 19.0 per cent undifferentiated carcinomata[20].

Tumors arising in the main bronchi may produce more or less total obstruction after attaining a relatively small size, producing atelectasis of the distal portion of the lung. Thus in some instances the shadow interpreted in an x-ray film as tumor may be atelectasis. If a main bronchus is involved, atelectasis of the entire lung may result. A ball-valve mechanism may result in

* Concerning the relation of tuberculosis and cancer, see the discussion on the subject in this journal, April, 1935.—Ed.

emphysematous changes of the distal pulmonary tissue, due to the failure of air to be expelled on expiration, with no obstruction on inspiration. Sudden profuse hemorrhage may occur from a small symptomless tumor.

Gradual infiltration of the lung may occur in wedge-shaped fashion, with base towards the site of bronchial origin. Highly malignant tumors may give rise to a lymphangitic carcinomatosis of a wide area of lung, with early pleural involvement and pleural exudate.

Early and more or less bulky metastases in the mediastinal lymph nodes may give rise to pressure symptoms. The small, anaplastic "oat cell" carcinomata often give rise early to wide and distant metastases.

(b) *Metastases.* The predilection to and the sites of metastases depend in large measure on the histology of the tumor [17, 30]. Adenocarcinoma commonly metastasizes to the central nervous system, notably to the brain, and to the adrenals, kidneys and liver. These are predominantly hematogenous metastases. Squamous cell carcinomata tend towards local extension, involving the bronchial lymph nodes, the adjacent vertebrae and the pericardium. The undifferentiated cell type growths show extensive lymphogenous metastases. Occasionally the supraclavicular nodes are involved early.

(c) *Systemic effects.* Variable and sometimes remote systemic effects are evidence of lung tumors. Dyspnea is usually the result of bulky mediastinal involvement as are venous engorgment and edema of the upper portion of the body. Bulky, posteriorly placed tumors produce dysphagia. Pressure effects may produce anorexia and abdominal pain. Other effects include paralysis of a vocal cord with hoarseness, inequality of the pupils, and inequality of the radial pulse. In common with other chronic lung affections, hypertrophic osteoarthropathy may appear, usually confined to clubbing of the fingers. Vertebral involvement may produce pain in the legs.

Symptomatology.

A CONSIDERATION of the varied pathology shows that symptoms may be highly diverse, and that no single symptom is pathognomonic (Weller [21]). In order of frequency [21, 22], cough is the most constant symptom. At first irritative and non-productive, later it usually becomes productive, frequently with blood-streaked sputum. About as common are pain in the chest and dyspnea. Then in diminishing frequency are loss of weight, osteoarthropathy, pleural effusion, and fever. Other symptoms, discussed under systemic effects, are less frequent and are seen in late or atypical cases.

Rapidly developing symptoms of an intracranial lesion in a person of middle age may be due to cerebral metastases from a lung carcinoma. Similarly, unexplained pleural effusions, especially when bloody, with or without fever, suggest pulmonary carcinoma.

Diagonsis.

THE most frequent sources of error are chronic organizing pneumonia, pulmonary tuberculosis, abscess of the lung, actinomycosis or echinococcus infections, esophageal lesions, aortic aneurysm and cardiac insufficiency.

The bronchoscope, with biopsy if the lesion can be reached, affords the best positive proof. Insufflation of the bronchial tree affords great help to the röntgenologist in interpreting radiographs. Radiographs almost always show that the opacity is most dense near the hilus and diminishes in intensity towards the periphery; normal lung tissue is practically never seen between the shadow of the neoplasm and the shadow of the mediastinum[23].

The paroxysmal, non-brassy nature of the cough is good presumptive evidence. Eosinophilia is a fairly frequent finding. Cases with pleural effusion should be aspirated and the centrifuged sediment examined for tumor cells. Aspiration biopsy is helpful to those experienced in its technique. Repeated sputum examinations should rule out tuberculosis in uncertain cases. The nature of the sputum and the radiographic findings are usually typical in lung abscess.

Treatment.

THE squamous carcinomata, especially the differentiated cell variety, if reasonably early and anatomically suita-

ble, should be directed to the thoracic surgeon for lobectomy or pneumonectomy.

Irradiation, though not particularly encouraging as yet in the percentage of lasting results, is valuable for palliation and prolongation of life. Occasional cases are reported without recurrence six or more years after x-ray therapy. The preferable type of x-irradiation is with high voltage, cross firing the tumor through three or more ports after accurate localization under the fluoroscope. The target-skin distance should be 70-100 cm. Heavy filtration is most desirable. A fractionated course of treatment over a period of four to eight weeks with small daily dosage is recommended.

Prognosis.

THE average duration of life after the onset of symptoms in untreated cases is twelve to eighteen months. Adequate data are lacking with which to evaluate the results of irradiation therapy. However, about 50.0 per cent of the cases will show excellent immediate palliative results, as evidenced by diminution of cough, pain, pressure symptoms, hemoptysis, improvement of general condition and gain in weight. In assessing the degree of palliation, radiographs are not entirely reliable, as so many variable features make up the appearance of lung cancer: atelectasis, perifocal pneumonitis, distal bronchiectasis, abscess, etc.

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MEDICAL JURISPRUDENCE

Modern Trends in Birth Control

—Concluded from page 440

FOLLOWING the presentation of Dr. Stone's paper, a paper on "The Law Catches Up with Science" was read by M. L. Ernst, Esq., the attorney who has had charge of the defense in many of the cases where doctors and nurses have been charged with violation of the law in regard to contraception. He presented a brief history of some of these cases and of the developments in the legalization of the dissemination of contraceptive information, with some references to the "freedom of books and literature in general" in relation to the laws against obscenity. He also considered the question of whether contraceptive information should be given only by doctors; and the question of controlling the advertising and sale of commercial contraceptives.

Contemporary Progress

+ Neurology +

Reduction of Increased Intracranial Pressure by Concentrated Solutions of Human Lyophile Serum

JOSEPH HUGHES and his associates of the University of Pennsylvania *(Archives of Neurology, 39:1277 and 1288, June, 1938)* report experiments with concentrated human blood serum for reducing cerebrospinal pressure. The serum was dried in a high vacuum from the frozen state — a method described by Reichel as "lyophile," indicating that the desiccated serum is readily soluble. In using this serum for reducing intracranial pressure, it was dissolved either in distilled water or a 50 per cent. solution of sucrose. Sufficient water or sucrose solution was used to render the concentration of the solution of dried serum four times that of normal serum. This concentrated solution was given intravenously to 7 patients with increased intracranial pressure and to several volunteer subjects with normal pressure. In both, the patients and the normal subjects, a definite fall in cerebrospinal pressure followed the injection of the concentrated serum, and this was more marked in the patients with the increased intracranial pressure. No untoward results followed the use of the serum, with injections up to 200 c.c. of the solution. A prolonged effect on cerebrospinal fluid pressure was observed—lasting up to twenty hours. Blood pressure is increased after the injection of lyophile serum; this indicates that this serum may be useful in the treatment of circulatory failure from shock or hemorrhage.

In a supplementary article, D. WRIGHT, D. BOND and HUGHES (p. 1288) report experiments on dogs with dog serum prepared in the same manner as the human lyophile serum. In these animals the cerebrospinal fluid pressure was recorded continuously by cisternal puncture under anesthesia with sodium amytal. Eight c.c. of serum per kg. body weight caused a reduction of cerebrospinal pressure that was maintained for more than twenty hours. The results of these animal experiments, therefore, confirm the clinical observation that a concentrated solution of homologous serum is effective in reducing cerebrospinal fluid pressure for relatively long periods.

COMMENT

In the therapeusis of reducing intracranial pressure we have made use of the following methods of approach:

1. Administering magnesium sulphate by mouth or rectum. This raises the osmotic

pressure of the g.i. tract, abstracting water from the blood stream, which, in turn, increases the concentration of blood plasma proteins and lowers the spinal fluid pressure.

2. Producing diuresis by using caffeine.

3. Using dextrose, sodium chloride and sucrose to raise the osmotic pressure of the diffusible elements of the blood.

Dextrose and sodium chloride have the disadvantage of remaining in high concentration in the blood stream but a short time. An actual secondary rise in pressure may take place; especially if fluid is taken. Sucrose obviates this difficulty since it is imperfectly diffusible and also causes marked diuresis.

As stressed by the authors, the advantage of the use of concentrated solutions of human lyophile serum is that these injected plasma proteins remain in the blood stream and exert "a pull" over a long period.

—H.R.M.

The Localization of Intracranial Lesions by Electro-encephalography

D. WILLIAMS and F. A. GIBBS *(New England Journal of Medicine, 218:998, June 16, 1938)* report the use of Walter's method of electro-encephalography in hospital patients from the Boston City Hospital. With this method abnormal electric discharges from the diseased intracranial focus are recorded. Pads moistened with salt solution are placed on the scalp, and the apparatus employed amplifies minute changes in electrical potential—of the order of 1/50,000 of a volt. Walter recorded these changes with a cathode ray oscillograph on moving bromide paper, but the authors' records were made with an ink-writing instead of a cathode-ray oscillograph. Eighty patients were examined by this method without knowledge of the clinical history or findings; comparison with the clinical records was made only when a report had been prepared on the encephalogram in each case. Of these 80 patients, 50 showed abnormal cortical potentials with evidence of focal disturbances on the encephalogram, 17 showed no cortical abnormality, and 13 had records characteristic of epilepsy. In 13 of the 50 cases with evidence of focal disturbance in the encephalogram, the clinical diagnosis was indefinite and operation was not done. In 37 cases verification of the position of the abnormality was possible; in 22 the lesion was seen at operation or autopsy. In all the 37 cases, the site of the lesion as determined clinically corresponded closely with the position of the focus shown in the electroencephalogram. In the 22 cases in which the lesion was seen at operation or autopsy, the correspondence was exact. In one case with two lesions, only one—the major lesion—was demonstrated on the encephalogram. In 6 cases it was not possible to localize the lesion by any clinical method other than by encephalography before operation. In 7 cases negative findings by electroencephalography were later found to be correct, although clinical symptoms indicated a cerebral tumor or some cerebral damage. The lesions causing the abnormal electrical discharge demonstrated in the electroencephalogram were of various types. They included tumor, abscess, subdural hematoma, porencephalic defects, Paget's disease of the skull causing cortical pressure and idiopathic cortical atrophy. This confirms Walter's conclusion that such abnormal discharges ("slow waves") emanate from abnormal cortex and not from the causal lesion.

COMMENT

We are witnessing the early stages of progress in the development of a new instrument of precision in the diagnosis and localization of intracranial and intracerebral disease processes. This new child is growing very fast and is taking increasingly longer steps.

The work in electro-encephalographic studies is being done by several distinct schools. A basic method of approach to the problem and a simplified system of interpreting the various electric charges set up by the diseased cortex are being developed.

The uncanny accuracy in localizing diagnosis revealed in the above abstract is very impressive. As a supplement to a careful clinical investigation, this method may prove ultimately to be as valuable as the electrocardiographic studies in heart disease.

—H.R.M

Peripheral Nerve Lesions In Pernicious Anemia

W. M. van der Scheer and H. C. KOCK *(Acta psychiatrica et neurologica, 13:61, 1938)* report 4 cases of pernicious anemia with nervous symptoms, in which the nature of the symptoms indicates that the peripheral nerves were involved with no or slight involvement of the spinal cord. These symptoms included tenderness on pressure of the peripheral nerves,

paresthesias, decrease in superficial sensibility, pareses increasing toward the periphery and diminished reflexes. The pareses in these cases were not associated with pyramidal signs and indicated involvement of the peripheral neuron. The nerves tender to pressure and impairment of cutaneous sensibility are characteristic of polyneuritis which would also account for the diminished tendon reflexes in the early stage of the disease. Symptoms of spinal cord involvement were also present in some of these cases. In one case it is noted that the symptoms of polyneuritis were present before the symptoms of anemia. In cases of pernicious anemia in which a small section of a peripheral nerve was removed from the living patient by the method of Greenfield and Carmichael, a very marked degeneration of the myelin was found. In one case dying of pernicious anemia, a section from the obturator nerve obtained at autopsy showed no degeneration of myelin, but a section from the more peripheal *n. cutaneus femoris lat.* showed evidence of distinct myelin degeneration, although less intensive than in the cases described in which the sections were removed from the most peripheral parts. These findings indicate that degeneration of myelin begins in the most peripheral portions of the nerve with the poorest blood supply. The authors note that in their cases treatment for polyneuritis combined with liver extract has relieved the symptoms due to involvement of the peripheral nerves to a great extent if not completely.

COMMENT

This commentator has observed seven cases of neuritis in association with pernicious anemia. These cases are especially amenable to liver therapy. The pernicious anemia factor should be investigated carefully in every case of polyneuritis.

—H.R.M.

Follow-up Studies of the 1933 St. Louis Epidemic of Encephalitis

J. F. BREDECK, Commissioner of Health of St. Louis, Mo., and his associates *(Journal of the American Medical Association, 111:15, July 2, 1938)* report a follow-up study of persons who had encephalitis during the epidemic occurring in St. Louis in the summer of 1933. In this follow-up study, which was the third since the epidemic, 331 persons were re-examined. Of these 141 stated that they felt as well as before the attack of encephalitis and 79 stated that their health had improved. Only 22 had been physically unable to resume their former occupations; 6 of these patients were over sixty years of age, and their advancing age may have been as important a factor as the residuals of encephalitis in reducing their working capacity. Thirty-two patients, or 11 per cent. of the entire series, complained of muscular tremors, but none showed definite parkinsonism. Organic residuals were found in 18, or 5.7 per cent.; these were often not of great severity. Severe parkinsonism was "quite uncommon." Subjective nervous complaints, especially nervous irritability and excitability, were quite common. Loss of memory and "drowsiness" were also noted, the latter symptom in 27 per cent. Some of these symptoms had been present prior to the attack of encephalitis. There was some difficulty in walking in about 25 per cent.—unsteadiness of gait or difficulty in walking in a straight line being noted in most of these cases. The low percentage of definitely incapacitating symptoms is noted—only 6⅔ per cent. This epidemic occurred in the summer, and the low percentage of serious sequelae is in marked contrast with the findings in follow-up studies of winter epidemics of encephalitis, which show a high incidence of total disability due chiefly to severe parkinsonism.

Anticonvulsant Drugs Tested By Experiments on Animals

H. H. MERRITT and T. J. PUTNAM *(Archives of Neurology, 39:1003, May, 1938)* report experiments on cats in which the "convulsive threshold" was determined by means of an interrupted current measured in milliamperes and graded in intensity, passed through the animal's head by electrodes placed on the intact scalp. The threshold was found to be "surprisingly constant" in normal untreated animals. The effects of various drugs on the convulsive threshold was tested. Of the standard drugs employed as anticonvulsants that were tested

phenobarbital was found to be "by far the most effective." Five drugs, not previously used as anticonvulsants, were found to have a greater anticonvulsant effect than phenoparbital as compared with their lesser soporific effect. These drugs are diphenylhydantoin, acetophenone, acetophenone oxine, benzophenone, and propriophenone. Whether any of these drugs will be of value clinically in the treatment of epilepsy remains to be determined. Preliminary clinical tests, the authors state, "have been encouraging" and further clinical trials are in progress. There is no reason, however, for believing that the ideal anticonvulsant drug has been found, and further search should be made.

Use of Histamine Phosphate and Peptone Solution In Neuroses And Psychoses

W. MARSHALL and J. S. TARWATER *(Journal of Nervous and Mental Diseases, 88:36, July, 1938)* report the treatment of various groups of psychotic patients with subcutaneous injections of peptone solution (5 per cent.) and subcutaneous injections of 1:1,000 solution of histamine phosphate. These measures for non-specific desensitization were employed on the basis of the senior author's (W.M.) hypothesis of psycho-allergy *(J. Clin. Med. & Surg., 44:288, July, 1937)*. In 12 cases treated with peptone only 2 showed any improvement; one of these patients had arthritis which also improved. Of 35 cases treated with histamine solution, 18, or 51 per cent., showed definite improvement. This included 4 out of 10 patients who were selected for this treatment because of the severity of their symptoms. Both patients with schizophrenia and those with manic-depressive psychosis showed improvement with this treatment. The authors present these cases as "an interesting scientific observation which may be worthy of further study."

COMMENT

The recent, numerous and diversified methods of therapy in the psychoses indicate an underlying dissatisfaction with the older purely psychoanalytic approach in the treatment. An active, aggressive spirit in contrast to the older, sedentary, and patiently submissive attitude now characterizes the younger psychiatrist. ***—H.R.M.***

+ Physical Therapy +

Infra-Red Rays

F. H. HUMPHRIS *(British Journal of Physical Medicine, n.s., 1:118, April, 1938)* notes that he used infra-red rays in the relief of pain before he knew that he was using them, or had even heard the term infra-red radiation. The lamp used in the early days of his practice was known as the leucodescent lamp, which it is now evident, emitted the infra-red rays. The value of these rays depends upon the fact that as they penetrate into the tissues they encounter resistance and are transformed into thermal energy or heat. The infra-red rays, penetrating more deeply than the ultraviolet rays, reach the deeper-lying fine arteries and veins and cause them to dilate. The chief use of the infra-red rays is for the relief of pain; hence they are employed in the treatment of all kinds of arthritis, in myalgias, in many forms of injury, in varicose and other chronic ulcers. The author has also employed these rays in the treatment of abdominal pain. While the author has not had experience with these rays in the treatment of otitis, he notes that others have used them frequently in this condition. The only cases in which the author has found these rays to be contraindicated is when proper exposure causes an increase in the pain. Their use should also be avoided in diabetic patients "who usually tolerate heat badly and are readily burnt." In giving treatment with the infra-red apparatus, the patient should recline; the rays should be directed at right angles to the skin. With the apparatus employed by the author, he adjusts the rheostat to its lowest point and places the lamp at such a distance that the patient feels no more than a pleasant sensation of warmth in the area exposed in the first five to ten minutes; after that a slight pulsing sensation will be felt in the tissues indicating that the blood vessels have begun to dilate. At this time the intensity of the treatment can be increased either by adjusting the rheostat or decreasing the skin-lamp distance. The minimum length of exposure should be thirty minutes and the length

of subsequent treatments should be gradually increased up to an hour. These treatments should never be "unpleasant to the patient."

COMMENT

This author is one of the pioneers in what is now called in this country "photothermy" and has been able to watch the advances in this field for the past twenty-five years. Although he does not stress the fact, the effectiveness of photothermy depends upon the amount of subdermal illumination. The amount of heat felt by the patient on the skin surface is only a guide as to safety and these treatments should never be uncomfortable. Photothermy in otitis media immediately after paracentesis gives the greatest relief. The point in technic that "the rays should be directed at right angles to the skin" is most important. With this arrangement the least amount of energy is reflected by the skin and more is absorbed. Photothermy is such a simple procedure that most clinicians neglect to take an interest in it and prefer more fancy modalities, such as short wave diathermy, with or without a coil, or ordinary diathermy.

—N.E.T.

Ultra-Violet In Skin Infections

J. R. SCHOLTZ *(Archives of Physical Therapy, 19:419, July, 1938)* presents a study of the penetration of the ultra-violet of the bactericidal range through the skin in relation to the average depth of the pathological process in various infections of the skin. The bacterial diseases of the skin are classified into three groups: 1. Those wholly or for the most part in the epidermis; 2. those wholly or for the most part in the corium; 3. those wholly or for the most part in the deep corium and subcutaneous tissue. Conditions in groups 1 and 2 are accessible to the ultra-violet rays of the bactericidal range, but only a relatively small part of "the total incident energy" would be available. With the present apparatus, it is not yet demonstrated that a sufficient amount of these bactericidal rays can be delivered at the site of the pathological process without causing undesirable concomitant effects. It is possible that if an applicator emitting monochromatic radiation of a bactericidal wave length is developed, this power of the ultra-violet can be put to more practical clinical use in the treatment of skin infections.

COMMENT

The whole question of the bactericidal effect of ultraviolet light in vivo is still debatable. If, as this author suggests, monochromatic radiation can be obtained at different wave lengths, perhaps the question will be more nearly solved. Clinical experience, however, so far fails to demonstrate that ultraviolet light can kill any organisms in the skin.

—N.E.T.

Thermal Effects of Short Wave Diathermy on Bone and Muscle

S. L. OSBORNE and J. S. COULTER *(Archives of Physical Therapy, 19:281, May, 1938)* report experiments on dogs, in which a thermocouple was buried in the bone marrow of the upper third of the femur, and another thermocouple inserted into the muscle of the thigh. Short wave diathermy treatments were given to the extremity using three different wave lengths (6, 12, and 24 meters). Two methods were used—air spaced electrodes and a "pancake" coil with felt between the coil and the skin to prevent burning. Treatments lasted twenty minutes. It was found that the temperature of the interior of the bone was definitely increased by the short wave diathermy treatments. This increase in temperature was always less than that in the overlying muscle. This was true with all wave lengths. The claim that the wavelength in short wave diathermy specifically determines the depth and degree of the heating and that the shorter wavelengths (of approximately 6 meters) heat bone or other deep tissues with less production of surface heat was not substantiated by these experiments. The authors' experiments were made on living tissues, and their findings indicate that wavelengths of 24 meters are preferable to the shorter wavelengths for deep heating; but other factors than wavelength must be considered, especially the amount of energy delivered to the tissues, which cannot be measured. Hence the authors conclude that "all claims regarding specificity of wavelength action are at present entirely hypothetical."

COMMENT

It is interesting to this critic to see that these authors finally conclude that specificity of wave length in short wave diathermy is mythical. The original propaganda for this form of treatment made great claims for specificity of wave length, but a few, understanding physics and physiology, have steadfastly maintained that wave length is inconsequential.

—N.E.T.

Intensive Radiation of Hyperthyroidism

S. C. BARROW *(Southern Medical Journal, 31:737, July, 1938)* maintains on the basis of his own experience and the statistics reported by others that radiation is the treatment of choice in various types of hyperthyroidism. The one objection to radiation has been that with the doses often employed, too long a time is required to render the patient non-toxic. With more intensive treatment the author finds that the toxicity can be overcome in six to eight weeks in the average case. Using 100 to 125 kilovolts with 3 to 4 mm. aluminum filter, 250 r. may be given weekly from six to eight weeks or more—a total dosage of 2,000 to 3,000 r. without causing a skin reaction. With 200 kilovolts, ¾ mm. copper filter, 500 r. may be given weekly from four to six weeks, with only a slight, if any, skin reaction. By using different portals of entry, these doses may be doubled. Normal thyroid cells are very radioresistant; and if myxedema or prolonged hypothyroidism occurs under intensive radiation therapy, it is not due to injury to these cells by the treatment, but to the reaction following the prolonged hyperfunction.

COMMENT

Radiotherapy in hyperthyroidism is becoming more refined in technic. This will lead to more consistently good results, though clinical benefits have been achieved for years with the empirical technic that has hitherto existed.

—N.E.T.

Biological Influence of Gamma Rays On the Glandular and Hair System of the Skin

V. PALUMBO of Florence, Italy, *(Radiology, 30:705, June, 1938)* presented his study of the gamma rays on glands of the skin and hair growth before the International Congress of Radiology in September, 1937. He has found that when only the gamma rays of radium are applied to a hairy region, such as the scalp, by means of a specially molded apparatus delivering a dose of these rays from different crossed fields, the hair completely falls out in about three weeks, but there is no clinically demonstrable alteration in the skin. This is followed by a growth of new hair, preceded by the appearance of a "thin down" one month after the hair has fallen out. The epilation dose of gamma rays has at first a repressing action on the mother-cells of the hair papilla; this is followed by a reaction of the germinating elements with resultant hair growth. If, however, treatment is repeated several times at the time of this latter reaction, the local dystrophy may finally be intensified and the reaction suppressed so that the hair does not grow any more. This method has been used for the treatment of hypertrichosis. This can be done without causing any appreciable reaction in the skin. The hair-growth stimulating action of the gamma rays can be employed in the treatment of alopecia. The author has treated a number of cases of total or partial alopecia and in nearly all has obtained a more or less complete new growth of hair. Increased secretory activity of the sebaceous and sudoriferous glands may be relieved by a single irradiation with the gamma rays. Thus these rays may be used with good effect in the treatment of facial acne, after general medical treatment of the patient.

COMMENT

Inasmuch as ultraviolet light from a water-cooled lamp is so consistently effective and safe in the treatment of alopecia, it is difficult to recommend the use of gamma rays as a routine procedure.

—N.E.T.

The Effect of Partial Carbon Dioxide Baths on the Circulation

N. SCHLECHT and H. J. KOHBROK *(Medizinische Klinik, 34:466, April 8, 1938)* have found that some patients with cardiovascular disease, especially those with severe decompensation, do not tolerate full CO_2 baths well. This is due not to the CO_2 or mineral content

of the bath, but to the effect of the hydrostatic pressure (in the full bath) on the thoracic and abdominal organs. In such cases the authors have employed partial CO_2 baths, using the same concentration of CO_2 as in the full baths. With special apparatus, an arm bath is employed first, then a foot bath and then arm and foot baths simultaneously. Sometimes these patients later tolerate half or full baths well. The temperature of these partial baths is kept at an "indifferent" level; it is the CO_2 content of the bath, not its temperature, that has the desired effect on the circulation, the authors note. Partial CO_2 baths, like the full CO_2 baths, reduce both systolic and diastolic pressure, especially the systolic pressure. With the partial baths both the pulse rate and the minute volume are reduced, the authors have found, while normal persons in the full CO_2 bath show an increase in both pulse rate and minute volume. In patients with cardiac decompensation, the partial CO_2 baths were found to increase the vital capacity. This effect of the partial baths on the pulse rate, minute volume, and vital capacity, in addition to their effect in reducing blood pressure, makes their use of special value in cardiovascular disease with decompensation and in coronary disease—in cases in which full CO_2 baths are not indicated.

COMMENT

Carbon dioxide baths have never gained worthy recognition in the United States. This has been largely because of the lack of interest of the medical profession in seeing that they were properly given. Unsettled conditions in Europe at present are encouraging medical hydrologists in this country to pay more attention to the scientific administration of these simple but effective procedures.

—N.E.T.

+ Public Health, + Industrial Medicine and Social Hygiene

Tuberculosis Survey In Chicago High Schools

J. B. NOVAK and J. S. KRUGLICK *(American Review of Tuberculosis, 38:106, July, 1938)* report a tuberculosis survey in the high schools of Chicago, Illinois. In the first year of this survey the Pirquet test was used; with this test 35.67 per cent. positive reactions were obtained. Some difficulty, even with experienced workers, was found in obtaining uniformity in the technique and interpretation of this test. And in the later years of the survey the Mantoux test was employed. Using the Mantoux test with OT (0.1 mgm.), 27.37 per cent. positives were obtained in 12,511 students; the percentage of positives increased with the age of the students. When two strengths of OT were employed in this test, (0.1 mgm. and 1 mgm.) 58.16 per cent. showed positive reactions. When PPD was used for the Mantoux test in two strengths practically the same percentage of positive reactions was obtained. With x-ray and physical examinations made in a small percentage of the students tested, no evidence of tuberculosis was found among those who reacted only to the second strength of OT or PPD. In two groups of students, those who had reacted negatively to the first test were retested in twelve to eighteen months. In one group tested and retested with OT 0.1 mgm., 4.81 per cent. showed a change from a negative to a positive reaction; 2 of the 49 students showed definite incipient tuberculosis. In the second group in which the original test was made with OT 0.1 mgm., the retesting was done with two strengths of PPD. A change to a positive reaction was obtained in 34.65 per cent. with the first strength, and 21.28 per cent. with the second strength. Of those showing a positive reaction with the first strength (140 students), 4 showed a definite pulmonary tuberculosis. A follow-up study was made of 68 cases of active or suspect pulmonary tuberculosis found in the first three years of the survey; of these 6 could not be traced; 12 were under treatment or periodic observation by a physician; 8 were ill at home but not under the care of a physician; 35 have failed to remain under supervision; 7 have died. From their findings in this survey, the authors conclude that in such studies the Mantoux test is more satisfactory than the Pirquet test; the use of two or more tests is necessary; from

the results of the retests it is evident that yearly examinations of high school students are necessary, especially as many do not enter college where they may be retested. Provision for adequate follow-up and care for the cases of tuberculosis found in such surveys is necessary, as well as facilities for investigation and control of the source of infection.

Undulant Fever

I. GERSCH and E. R. MUGRAGE *(Journal of Laboratory and Clinical Medicine, 23:918, June, 1938)* note that in the last ten years the medical profession has "become increasingly aware" of undulant fever, a disease formerly considered rare in this country, but apparently few physicians realize the prevalence of the chronic and ambulatory forms of the disease that cause "only vague aches and indefinite complaints." In making the agglutination test for *Br. abortus* on 5,000 blood specimens from hospital and out-patients at the University of Colorado School of Medicine Laboratory, 60 gave positive reactions, 51 showed an agglutination titer of 1:25 and 9 had positive agglutination at both the 1:25 and 1:1,100 dilutions. Follow-up studies showed that 39 of these 60 patients were living on farms and 31 of these 39 had drunk mostly raw milk in the past two years. An almost equal incidence of positive tests was found in men and in women in this series. In 491 intradermal tests made on hospital patients, 12.2 per cent. positive reactions were obtained; of these positive reactions 91.7 per cent. gave a history of drinking raw cow's milk chiefly. These findings indicate that brucella infections are relatively common in patients admitted to a general hospital, and that such infections are usually associated with the drinking of raw milk.

H. S. NEWMAN *(Annals of Internal Medicine, 11:1973, May, 1938)* also calls attention to the frequency of contagious abortion infection among cattle and swine in this country, and the danger to man resulting from it. Many cases of undulant fever in man are not diagnosed, and therefore the number of reported cases does not indicate the real prevalence of the disease. This is especially true in communities where laboratory facilities for making serological tests are not available. The pasteurization of milk destroys the bacillus, and the incidence of the disease is reduced by the fact that much of the milk used is pasteurized. Infection with strains of *Brucella* from swine occurs chiefly in herdsmen, veterinarians, butchers and packing house workers, who either come in contact with infected animals or handle the meat from such animals.

Lung Findings In Foundry Workers

O. A. SANDER *(American Journal of Public Health, 28:601, May, 1938)* reports a study of 4,000 foundry employees, with special reference to lung changes. Half of this group had had less than ten years of foundry exposure. In the entire group, 279 men were found to have definite silicosis, *i.e.*, about 7 per cent. Of these 279 men 60, or 22 per cent., had tuberculosis which either was definitely active or the degree of activity was indeterminate. Studies of these cases of silico-tuberculosis over a period of four years have indicated that, in foundry workers, this condition is primarily a reactivation of a previously acquired but "walled-off" tuberculosis. Simple silicosis without tuberculosis lesions, as seen in foundry workers, is evidently very slowly progressive, so no visible changes could be demonstrated by serial roentgenograms in a period of four years. Only rarely did simple silicosis cause symptoms or diminish working capacity in these foundry workers. From these studies the author concludes that the tuberculosis rate among foundry workers is not increased by the dust exposure *per se*, but only after silicosis becomes definitely established. Tuberculous individuals should, however, be prevented from carrying on a dusty trade by preemployment and periodic examination of workers. The foundry dust hazard is best controlled by elimination "at its source" of dust generated by sandblasting, sand chipping and grinding, and "shakeout" operations.

Gas Gangrene Infections In Industrial Practice

C. H. RAMSEY *(Southern Medical Journal, 31:775, July, 1938)* notes that gas gangrene infection is comparatively

infrequent in industrial practice, but because of its "rapidly fulminating character" when it does occur the physician or surgeon must be prepared to act promptly. In industrial practice gas gangrene most frequently follows compound fractures, and is the most serious complication of such fractures. It may follow any extensive tissue injury, such as occurs in crushing injuries, extensive lacerations, etc. In the treatment of gas gangrene, adequate surgical care at the earliest possible moment is essential—débridement of the wound with removal of dead tissue, even amputation if the infection is advancing; incision and drainage to remove toxic secretions and admit air. The use of gas gangrene antitoxin is also indicated, as this has been shown to reduce the mortality very definitely. Where gas gangrene is to be feared because of the nature of the wound, a prophylactic dose of the antitoxin may be given.

Syphilis in the Transient

P. A. O'LEARY *(Minnesota Medicine, 21:459, July, 1938)* notes that the incidence of syphilis in the transient population is relatively high and constitutes a special problem in venereal disease control. While statistics from some districts indicate that the incidence of syphilis in transient groups may be as high as 21 per cent., and even higher among Negroes, statistics gathered in Minnesota indicate that the incidence of syphilis in the transient population is not much above 10 per cent. Probably not more than a third have the disease in a form that is infectious and requires active treatment. The treatment and control of this group is of great importance in the control of syphilis in the community as a whole and should be in the hands of the local public health authorities. The group who do not have the disease in active infectious form nevertheless need treatment to arrest the disease and maintain the individual's wage-earning capacity. Measures must be adopted that will compel patients with the active form of syphilis to remain under treatment until cured.

The Complement Fixation Test In Gonorrhea

E. D. BARRINGER *(New York State Journal of Medicine, 38:699, May 1, 1938)* notes that gonorrhea in the male even in the chronic stage is relatively easy to diagnose by bacteriological methods. In the female while the acute and sub-acute stage may also be diagnosed by such methods, the chronic stage is bacteriologically negative although clinical symptoms are present. Yet the adult woman in the chronic stage may still infect others, not only in the sex relation, but also by other forms of contact. In 1922 the author made a report on a complement fixation test for gonorrhea, which she and other workers in the Department of Health of New York City had found of definite value in the diagnosis of chronic gonorrhea in women. Continuing the work with this test a new series of studies has recently been made on 200 cases, which has confirmed the previous conclusions in regard to the value of this test. Similar results have been obtained by Price in London and by the Hirshlands in the State Department of Health of Pennsylvania. This test may have many practical uses, such as detecting cases of gonorrhea before granting licenses to marry or in the selection of nurses to have charge of young children in hospitals or other institutions.

+ Ophthalmology +

Net Average Yearly Changes In Refraction of Atropinized Eyes From Birth to Beyond Middle Life

E. V. L. BROWN *(Archives of Ophthalmology, 19:719, May, 1938)* presents a study of average yearly changes in refraction of one or both eyes of 1,203 persons between birth and the end of the fifty-first year of life—8,820 determinations of refraction. In this study it was found that from birth to the end of the seventh year, hyperopia increased (refraction decreased) in the average case; this conclusion is based on 1,668 retinoscopic computations. This conclusion is contrary to the generally accepted view, but the decrease of refraction in this age period was found "in the group as a whole throughout each year, in male

and female alike in each year and in strabismic and non-strabismic eyes." From eight to thirteen years, refraction increased, *i.e.*, hyperopia decreased and myopia increased; this is according to the generally accepted view. After thirteen years, this increase of refraction toward myopia continued too, but at a much slower rate up to the age of twenty. After the age of twenty, the average changes in refraction were very slight; between the ages of twenty and thirty-three the increase in refraction continued at a very slow yearly average; but between thirty-four and forty-two a slight yearly decrease was observed (averaging only 0.03 diopter); this the author suggests is possibly due to the weakening of accommodation. Between forty-three and fifty-one years of age there was again a slight yearly increase in refraction, averaging 0.09 diopter. This is possibly due to an increase in the index of refraction of the lens. The decrease of hyperopia (increase of refraction) noted in the first seven years of life, in the author's opinion is not due to less effective cycloplegia in the earliest years. He suggests that it might be due to a decrease in the curvature of the cornea, a decrease in the curvature of the surface of the lens and a relative backward displacement of the lens. A study of the curvature of the cornea at different ages has been made in a very few persons in this series, but not in a sufficient number to warrant definite conclusions. Myopia develops chiefly during the school years up to the age of twelve, but puberty appears to bring about "emmetropization."

A Classification of Concomitant Strabismus

G. P. GUIBOR *(Archives of Ophthalmology, 19:947, June, 1938)* suggests the following classification for strabismus: Pseudoparalytic strabismus, accommodative strabismus, strabismus due to or associated with fusion, strabismus due to or associated with amblyopia, strabismus due to or associated with neuromuscular defects, strabismus due to or associated with anisometropia, strabismus due to or associated with multiple defects. The diagnosis of these various types is made as follows: Pseudoparalytic squint by simultaneous atropinization of each eye and determination of motility. Accommodative squint by atropinization of each eye, correction of the refractive error and measurement of the angle of squint for far and near vision (with and without glasses). Squint associated with fusion defects by fusion tests and three attempts to train the patient to fuse. Amblyopic type by determining visual acuity. Squint associated with muscular defects by studying the motility and measuring the angle of squint and by the use of prisms for constant wear. Anisometropic type of squint by the determination of the refractive error.

In 148 patients with various types of squint, treated by correction of the refractive errors, atropinization of one or both eyes and occlusion of the fixing eye, none of the patients with squint associated with muscular defects, or with the combined type associated with muscular defects and amblyopia, recovered. But 9 per cent. of those with squint associated with fusion defects recovered, and 15 per cent. of those with the amblyopic type recovered. Much higher percentages of recovery were obtained in squint of the accommodative type—70 per cent.—and in the squint of the combined accommodative amblyopic type—74 per cent. In 65 cases orthoptic training was used in the treatment of squint. Although this group contained more patients of advanced age than the previous group, a higher percentage of recoveries was obtained; 15 per cent. of the cases of squint associated with muscular defects and 22 per cent. of those with squint associated with muscular defects and amblyopia recovered—types which did not recover with the methods of treatment in the first group. Of the amblyopic type, 40 per cent. recovered; and of the accommodative type, 83 per cent. recovered, giving definitely higher percentages of recovery in these types than in the previous group. Fusion training, therefore, is of definite value in the treatment of most types of strabismus.

COMMENT

It seems to be the common idea that orthoptic training is quite new. Von Graefe remarks in one of his articles that he had tried to improve the vision after operations for cataract and squint by training but adds

that he never obtained "compensation." To the writer's knowledge, there were a goodly number of oculists using prism training and stereoscopic exercises thirty years ago. Some of these men treated the phorias in this same way. In the recent decade, orthoptics has received much attention and we are now in a fair way to learn the limitations and advantages to be expected, and, what is more important, a practical and not too expensive way of utilizing the treatment. It seems to the writer that the classification offered in the article we are discussing is much too complex. It is strange but true that in the usual eye examination there is no effort made to learn whether the patient uses one or both eyes all or part of the time. Each eye is tested separately but none of the tests necessary to determine binocular vision are a part of the usual examination chart. Many years ago, I began to include the use of Wells' charts in the stereoscope to determine presence or absence of binocular vision for distance and the Bishop-Harmon diaphragm test for the same purpose at the near point. It came out that about twenty per cent of patients being refracted did not have binocular vision and that there was a fixed relation between macular parity and the degree of binocular vision as measured by depth perception. If the acuity of one eye differs from the other by even so little as the difference between 20/20 and 20/30, there is a very evident effect upon the process of combining two images, of two dimensions each, into a single mental image of three dimensions. When the difference reaches that found with one normal eye and 20/50 in the other, only relatively large images can be combined to make a successful mental image. With finer type, there is no success and the patient is really an intermittent squinter. If inability to combine images is followed by deviation of the poorer eye to avoid diplopia (because suppression of the offending macular image is thus obtained), there are very few cases of heterophoria and a great many cases of intermittent squint. It seems sound to say that squint is really a way toward obtaining relief from the difficulties of combining dissimilar retinal images. This being so, the logical way to improve squint is to improve the macular capacity of the poorer eye, for the nearer alike are the macular capacities of the two eyes, the more successful is the combining of two retinal images into a singe three dimensional mental image. Practical experience shows that some cases can be vastly improved by training and refraction, but others respond very poorly. Too many assume that there is but one way to improve the poorer macula and that is by placing a glass before the eye (or eyes). Here has been the great mistake, for unless the macula, the image of which has been habitually suppressed, is actually forced to resume its share in the visual act, there is no impulse from within to change the habitual state of macular suppression of the poorer eye. This is true after operation, unless by good fortune the macula of the poorer eye is replaced quite near to the ideal position. The amblyopia of the eye squinting habitually may be decidedly reduced if, by any mischance, the vision of the better eye is lost. At once, the poorer eye gets rid of the element added by habitually suppressing the macular image of the eye (usually poorer from birth than the more fortunate fellow). There are many cases on record with an acuity of 20/200 which showed a remarkable improvement when the vision of the better eye was lost. In none of those coming to my personal notice, nor in any seen reported in the literature, has the final acuity of the remaining eye, after elimination of the habit element, ever come to 20/20. We conclude, then, that every case of amblyopia in non-paralytic squint is composed of two elements, an element resulting from habitual suppression of the poorer macular image, and a fixed element, the original defect over which we have no control. The amount of the habit element varies, and, the greater this is, the more successful we will be in getting the poorer eye back into team work. If depth perception, as measured by appropriate charts in the hand stereoscope or the position of the blind spot of the poorer eye while the better eye is fixing, is located on the chart of the stereocampimeter, after operation for squint, or after training, or after an eye has undergone the adjustment that sometimes occurs spontaneously during the early teens, the almost perfect readjustment can be shown to be usually a cosmetic result rather than the establishment of binocular vision. Results of tests made at the near point with the Bishop-Harmon diaphragm test are sometimes so perfect that it requires close observation to recognize that the eyes are really used in rapid alternation. The same eyes tested in the stereoscope show a varying degree of efficiency but depth perception is below normal. The coarser print may be fused well but the finer type will show that binocular vision, as found in the normal person with two eyes of equal macular capacity, is very, very rarely established, by operation, training, or any other means. It will require some time to learn in advance of actual treatment what is the practical limit of gain because the conscientious oculist cannot recommend an expensive treatment unless he has reason to believe some practical advantages will follow.

In various parts of the country, clinics are training numbers of children with squint, and soon we should have sound ideas on this phase of the problem. The question of examining and training technicians for this

work is now before some of our representative eye societies and we ought soon to have this treatment available not only to the privileged poor (or to the many who claim the benefits of this state) but also to the less numerous but very useful element of our population, the middle class.

There is a very definite place for orthoptic training, but a service like that rendered by Duane, in bringing order out of chaos when multiple tenotomies were done on suspicion and hope, must be duplicated. With all of the facilities now at our disposal and the number of soundly trained men employed in laboratory work and teaching, this is very little to expect. *R. I. L.*

Intra-Ocular Pressure In Nephrotic Edema

J. D. ROBERTSON (*Lancet*, 1:1435, *June 25, 1938)* reports a study of the intra-ocular pressure, using a Schiotz tonometer, in 20 patients with severe nephrotic edema. In all these cases the intra-ocular pressure was within normal limits. It is recognized that the tonometer does not give absolute and accurate measurements of the intra-ocular pressure, as the readings are affected by other conditions in the eye, such as the elasticity, thickness, and circumference of the cornea; but repeated observations on the same patient by the same observer and with the same instrument are of definite relative value. Therefore repeated observations were made in a case of lipoid nephrosis with marked edema, in which the plasma proteins and their osmotic pressure were brought up by treatment to the level where edema disappeared. In this case there was no marked change in the intra-ocular pressure, which varied between 19 and 22 mm. Hg throughout the period of observation. It is evident, therefore, that the eye does not share in the "waterlogging" that develops in other tissues in nephrosis as the plasma proteins are diminished and their osmotic pressure falls. In other words the eye appears to be unaffected by the factors that govern the interchange of fluid throughout the body, as indicated by the maintenance of normal intra-ocular pressure during periods of marked nephrotic edema. On the basis of these findings, the author concludes that "the equilibrium level" of the intra-ocular pressure is not maintained "by the hydrostatic pressure in the capillaries minus the difference in osmotic pressure between the aqueous and the blood. This, he notes, suggests that "the aqueous humor can no longer be regarded as a dialysate."

Sulfanilamide In Gonorrheal Ophthalmia

L. J. FERNANDEZ and R. F. FERNANDEZ *(American Journal of Ophthalmology, 21:763, July, 1938)* have previously found treatment with parenteral milk injections, frequent irrigations and local antiseptics effective in treating ophthalmia neonatorum and gonorrheal ophthalmia in adults secondary to genital gonorrhea, but not in the primary type. They have recently employed sulfanilamide in the treatment of a few cases of gonorrheal ophthalmia—all in adults. As a rule the daily dose was 2.6 gm. in four divided doses the first three days, and 1.95 gm. daily for another three or four days or longer if indicated. In 2 cases the initial dose was 3.90 gm. for three days, followed by 2.6 gm. for two days, and then by 1.95 gm. daily. In the first case milk injections were also given, but the eye cleared up more promptly than with the injections alone, the improvement being attributed to the sulfanilamide. In 3 cases no milk injections but local treatment with mild antiseptics was used; and in 2 cases normal saline irrigations of the eye alone. In all these cases results were "highly satisfactory." Two cases were treated with sulfanilamide alone and results were as good as when local treatment also was employed. In this series cases of primary eye infection responded as promptly to the sulfanilamide treatment as cases of secondary ophthalmia, which was not the case with other methods of treatment. The authors consider that the results obtained warrant "the judicious use" of sulfanilamide in all cases of gonorrheal ophthalmia in adults, unless there is a serious contra-indication. Smaller doses should be used in cases with renal insufficiency. The authors had no opportunity to treat ophthalmia neonatorum by this method, but believe it would be as effective as in adults.

Interstitial Keratitis Treated With Zinc Ionization

S. M. EDISON *(Illinois Medical Jour-*

nal, 73:405, May, 1938) notes that since "the vast majority" of parenchymatous keratitis cases are syphilitic, clinical and serological studies should be made in every case. Anti-syphilitic treatment is definitely indicated, although in the hereditary type of interstitial keratitis this may have but little effect upon the eye lesion. As a rule in children, bismuth is the drug of choice for antisyphilitic therapy, but ill-nourished children may tolerate mercury better. Local treatment depends upon the phase of the disease in each case. In the early stages atropine should be used; various stimulating and irritating drugs should be employed to promote resolution. In the later stage, the author has found zinc ionization of value in promoting absorption. For this procedure a special cup shaped piece of zinc with an absorbent pad on the inside is used for the eye electrode. The negative pole has a pad, which is saturated with saline solution and fastened to the patient's body. The pad of the eye electrode is saturated with a 1 per cent. solution of zinc sulphate, attached to the positive pole, and inserted under the lids, after butyn has been instilled into the eye. A current of 4 to 5 ma. is employed for five minutes. The eye is thoroughly irrigated after the treatment; there is considerable ciliary injection, but reactions were never very severe.

THE RED TAPE BEGINS TO UNWIND

If any one is in doubt as to what happens under state medicine, the following example should be convincing: In the case of a woman in the state of New York who was ill, attention was given by a local physician, who then notified the relief official that prolonged medical care would be required. The case supervisor for the public welfare official then sent the following letter:

We are enclosing forms which are to be forwarded to the state department where prolonged medical care is needed.

We are asked to send a letter from the doctor with these forms giving a complete medical history of the patient which will include the date of onset of illness, the diagnostic procedure used and any laboratory findings. *The name, strength and quantity of the material used for injections will be reviewed by a state physician.*

The red tape begins to unwind and before the spool runs out all of medical practice may be wrapped in its meshes. —*Jour. A. M. A.*, Aug. 13, 1938.

TREATMENT OF PELLAGRA

TOM DOUGLAS SPIES, WILLIAM BENNETT BEAN, Cincinnati, and ROBERT E. STONE, Birmingham, Ala. *(Journal A. M. A.*, Aug. 13, 1938), say that the observations of Elvehjem, Madden, Strong and Woolley showing that nicotinic acid cures canine blacktongue stimulated several investigators to administer nicotinic acid to human beings with pellagra. Spies, Cooper and Blankenhorn recently reported that in a series of seventeen cases of pellagra, nicotinic acid, nicotinic acid amide and sodium nicotinate dramatically blanched the erythematous dermal lesions, produced healing of the glossitis, stomatitis, vaginitis, urethritis and proctitis, and reduced the amount of porphyrin in the urine to normal.

ETIOLOGIC FACTORS IN SUICIDE

—Concluded from page 425

4—The psychodynamics of suicide follows a more or less common pathway. To a lesser degree this is true for similar attempts in so-called normal people.

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Medical Book News

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Edited by Alfred E. Shipley, M.D., Dr. P.H.

The Cardiac Phases of Child-Bearing

THE HEART IN PREGNANCY. By Julius Jensen, M.R.C.S. St. Louis, The C. V. Mosby Company, [c. 1938]. 371 pages, illustrated. 4to. Cloth, $5.50.

For many years there has been a wide divergence of opinion among competent observers concerning the ability of the cardiac patient to bear children. Many of the old dogmas are incorrect, and modern investigation has thrown much new light on the subject. Under these circumstances, the need for a thorough review of existing evidence regarding the heart in pregnancy is apparent.

Few physicians can assemble and correlate enough pertinent facts from their own practice, in regard to the heart in pregnancy, to make their observations competent.

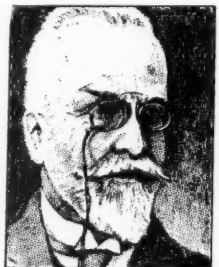
The author is particularly well fitted for the work he has brought forward. A wide medical experience as an internist, coupled with an assignment to care for medical cases in the St. Louis Maternity Hospital. and a great interest in the literature of obstetric medicine gives him the highest standing as a competent observer of the modern concepts and evaluation of this disease.

In this book the many physiological factors which are concerned with the increase in cardiac work during pregnancy, and the necessity of considering the heart and circulation on a dynamic and functional, as well as on an anatomic basis, have been carefully evaluated. In addition, the author has assembled many facts from the world literature and combined them with his own extensive observations.

It appears from the assembled data, that many of the old opinions in regard to this complication are without sound foundation, and that in the light of new and more scientific evaluation, many of the former prognoses must be changed.

This volume is wonderfully well done, and it should be carefully read and studied by all those who are concerned with the care of pregnancy complicated by cardiac disease.

WILLIAM SIDNEY SMITH.



Oskar Minkowski
1858–1931

Classical Quotations

● As far as the results of extirpation of the pancreas are concerned, we have already mentioned the most important: *After complete removal of the organ,* the dogs *became diabetic.* It has not to do simply with a transient glycosuria, but a genuine *lasting diabetes mellitus,* which in every respect corresponds to the most severe form of this disease in man.

Oskar Minkowski. *Arch. f. exper. Path. u. Pharmakol.* 26:375, 1889-90.

Rehabilitation of the Poliomyelitic Patient

INFANTILE PARALYSIS AND CEREBRAL DIPLEGIA. Methods Used for the Restoration of Function. By Elizabeth Kenny. Sydney, Australia, Angus & Robertson, Ltd., [c. 1937]. (Philadelphia, P. Blakiston's Son). 125 pages, illustrated. 8vo. Cloth, £1-1-0.

There is much detailed information in this book which should be of value to orthopedic surgeons and nurses engaged in the care and rehabilitation of the crippled. Sister Kenny bases her methods and treatment on the following five principles.

1. Maintenance of a bright mental outlook.
2. Maintenance of impulse.
3. Hydrotherapy and remedial exercises.
4. Maintenance of circulation.
5. Avoidance of the generally accepted methods of immobilization. These principles speak for themselves.

The book departs in only small measure from accepted orthopedic procedures. It appears to us that Sister Kenny's major contribution to the field lies in the enthusiasm and unbounded energy she has brought to the work. It would seem that with as much energy and personal attention to details as practiced by Sister Kenny, at least as good results could be expected from accepted procedures. The only danger in her form of therapy would appear to lie in her departures from orthodox procedures. The wisdom of manipulating an extremity during the tender stage might seriously be questioned, as might her resistance to the principle of immobilization of affected parts, although it is noted that in practice she does not entirely deny the importance and usefulness of immobilization.

Her treatments of the diplegias follows the same principles and procedures used for poliomyelitis. Her commendable success with these children is largely attributable to the individual attention given to them.

Sister Kenny is furthermore to be commended for the attention she has focused on the paralyzed child throughout Australia.

S. D. KRAMER.

Our Eating In Relation to Blood Pressure

DIET AND HIGH BLOOD PRESSURE. By Dr. I. Harris. Toronto, Longmans Green & Company, [c. 1937]. 196 pages. 8vo. Cloth, $3.50.

This book was read with interest. It contains much sound advice. The author hopes for an almost Utopian state of public education on the ideal diet.

The relation of diet and high blood pressure is primarily prevention by insisting that during adult life and especially after the thirties the total daily protein intake be limited to 2 ounces (60 grams). The caloric value of the carbohydrate and fats are advised kept below the point of acquiring obesity.

The protective foods are stressed, and the importance of adequate milk is clearly impressed.

Dr. Harris gives no weight to the arterial changes many investigators believe are produced by diet high in cholesterol, and makes no fat restrictions except to avoid obesity.

The section on constipation and its dietary treatment considers only the atonic type requiring a high roughage diet. No mention is made of the too frequently undiagnosed and commonly occurring spastic type, made worse by the high residue diet.

This reviewer does not agree that diet lists be presented to the lay reader. Diet instruction must be individual and must be prescribed by the patient's own physician.

Some of the suggested menus are low in milk, and are below Sherman's value for adequate calcium.

This volume should be recommended to the physician rather than to the general public. It offers food for thought to the members of the profession, especially general practitioners and internes.

PAUL C. ESCHWEILER.

Down the Centuries With Women

A HISTORY OF WOMEN IN MEDICINE. From the Earliest Times to the Beginning of the Nineteenth Century. By Kate Campbell Hurd-Mead, M.D. Haddam, Connecticut, The Haddam Press. [c. 1938]. 569 pages, illustrated. 8vo. Cloth, $6.00.

Almost a lifetime of accumulation and search is represented by this work in which the author has reconstructed both the lives of medical women and the historical background against which their work was done. The book is an inspiring record of women's services, and is clear evidence that women by their abilities have earned the right to continue their advance professionally.

Dr. Hurd-Mead's pages are not only a gold mine of source references but also rich in interpretation of national cultures in relation to the recession or progress of women in the sciences and in the arts. In her preface the author states two facts: first, that most men "have seemed incapable of making a true appraisement of the development of women's life and work"; and, second, that "as a class, women seem always to have been too busy to say much about themselves."

Into this breach Dr. Hurd-Mead has stepped to reveal the magnificent history of women in medicine: the gynecological writings and practices of women physicians two thousand five hundred years before Christ, the lives of learned medical queens, who were always students of medicine, from the days of Queen Mentuhetep about 2300 B.C. to Hatshepsut in 1500 B.C. Medical women of ancient times, of the early Middle Ages, of the twelfth century, the thirteenth, the fourteenth, the students of the seventeenth and eighteenth centuries are traced and made to live again, as Dr. Hurd-Mead makes plain the important part which women have played in medicine.

The eighteenth century was an era of conflict and revolution from which women were not exempt. On the one hand Horace Walpole called Mary Woolstonecraft Godwin "a disgusting and unwomanly creature"; on the other hand Condorcet and his wife regarded any inequality in the sexes fully "as fatal to the progress of men as of women." The chapter on the eighteenth century documents with a discouraging wealth of material the poverty in the medical advance of both men and women. Nevertheless in that century by their work and by the courageous expression of their ideas about the changes which they believed should be made, women laid the foundations for the progress of the nineteenth century.

Sir Auckland Geddes has written that much of the medical profession is not men's work and that the majority of medical men with difficulty find "inspiration in their daily rounds." Then he adds, "unconsciously women possess that sense for the future which is the essence of the emotion of human betterment." Released by the eighteenth century from their economic and social slavery, women used their new freedom to improve schools, hospitals, the home and group health. In that way, these eighteenth century progressives in medical and social welfare confirmed the truth of Sir Auckland Geddes' statement that women by their sense of the future have in them the essence of human betterment.

JEANNETTE MARKS.

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A New Edition of Beckman's Therapeutics

TREATMENT IN GENERAL PRACTICE. By Harry Beckman, M.D. Third edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 787 pages. 8vo. Cloth, $10.00.

The third edition of Beckman's *Treatment in General Practice* is up to the minute in its information. When subjected to the test of practical use it is not found wanting. The section on the treatment of Addison's disease, in addition to a discussion of cortin, contains an excellent description of the high salt regimé plus a low potassium diet. The advantages of the high carbohydrate, low fat regimen in diabetes mellitus are well described, and tables are presented that enable the practioner to prescribe the desired diet very readily. The use of sulfanilimide is fully described.

The text itself is well written, the style clear, readable and bright, not without a leavening dash of humor now and then. Beckman's Treatment can be recommended without hesitation as a valuable addition to the doctor's library.

E. P. MAYNARD, JR.

A New Dissection Room Manual

A METHOD OF ANATOMY DESCRIPTIVE AND DEDUCTIVE. By J. C. Boileau Grant, M.B. Baltimore, William Wood and Company, [c. 1937]. 650 pages, illustrated. 4to. Cloth, $6.00.

Professor J. C. Boileau Grant's "A Method of Anatomy" is one of the most individual of modern textbooks planned for a course in gross anatomy. Integration of the detailed facts is effected to an unusual degree by explaining their significance from a variety of viewpoints. Topography is emphasized, considerations of functions are frequently combined with those of structure, and in many places developmental and comparative anatomy are employed to illuminate the description. Also, discussions of general topics are introduced at favorable points.

The author's style is lucid. There are characterizations and similes of individual flavor which arrest the attention and aid the memory. An outstanding feature is the original line drawings, averaging about one to a page. Some are diagrams, but the majority are simplified representations of a region designed to emphasize some especial point. Doubtless these drawings will be used by many teachers in blackboard talks. In short, the book is more than a routine presentation of descriptive anatomy. It is an account which has drawn liberally from the armamentarium of an informed and experienced teacher to present much of significance that lies behind the facts.

The general plan of the book is bound to arouse discussion among teachers of anatomy. The subject matter is not marshalled as in most texts in sections devoted to the respective organ systems, nervous, muscular and the like. Instead, the material is grouped under the captions of the body parts which it is intended a student will successively take up in carrying out his dissection. Thus the discussion of muscular, arterial and other systems of the pelvis are so combined that the student preparing to dissect the pelvis will find the entire subject matter to be read in one chapter of the book.

Obviously, in a day of crowded curricula such time saving in reading must have an appeal for teacher and student. The method has, nevertheless, an equally apparent disadvantage. It is not especially suited to develop the student's capacity to judge for himself the relative values of anatomical ideas and to choose what he will seek to remember. It must not be forgotten that in later life he will always need to search through journals and texts to select material which will meet his especial needs. He must not only be selective in his reading, but must pass judgment on the views and observations coming to him in conversations with his colleagues if he is not to be a "stillborn" doctor.

Professor Grant's book impresses the reviewer as containing in its 650 pages more of the gist of elementary anatomy, expressed clearly and interestingly, than does any other text of equal length with which he is familiar. It will be of interest to learn its effect in the classes of those who, it is rumored, are planning to use it either as a text for the anatomical course or for a later review course.

E. D. CONGDON.

Chiropractic Propaganda Via Medical History

HOW ANCIENT HEALING GOVERNS MODERN THERAPEUTICS, The Contribution of Hellenic Science to Modern Medicine and Scientific Progress. By Kleanthes A. Ligeros, M.D. New York, G. P. Putnam's Sons, [c. 1937]. 523 pages, illustrated. 8vo. Cloth, $10.00.

Dr. Ligeros, the author of this volume, has spent many years in studying the medicine of antiquity. In his book he expresses the intention of exposing the origin of all the branches of medicine and of exhibiting the train of development which connects the past with the present in medicine. For the purpose of carrying out his intention the author has collected a great amount of factual information, relating to Greek and Roman medicine. However, the author has a very marked bias in favor of chiropraxy and endeavours primarily to prove the value of this therapeutic trend by showing that it was employed in antiquity. Besides this he permits his patriotism to override his judgment and as a result we find that the Greeks were practically responsible for all the great advances in medicine. The work which has resulted from the operations of these two factors is therefore only a hodge-podge of facts, distorted and perverted to serve the author's purpose.

GEORGE ROSEN.

Sex Life of the Male

MEN PAST FORTY. By A. F. Niemoeller, M.A. New York, Harvest House, [c. 1938]. 154 pages, illustrated. 12mo. Cloth, $2.00.

This book of 154 pages would better convey the purpose for which it was written if it were titled: "The Sexual Life of Men Past Forty." It discusses the sexual mechanism of the male, impotence and its treatment, the disorders of the prostate gland and their treatment, etc.

All this is for the layman past forty. The text contains much information presented in a clear style. But why need the man in the street learn the technical details of disturbances of so important a function? Let the doctor guide the sufferer, often mental as well as physical, through the mazes of the pathology, symptoms and treatment of disturbances of the sexual function either before or after forty years of age.

S. R. BLATTEIS.

A New Approach to the Behavior Problem

A BIOLOGICAL APPROACH TO THE PROBLEM OF ABNORMAL BEHAVIOR. By Milton Harrington, M.D. Lancaster, The Science Press Printing Company, [c. 1938]. 459 pages. 8vo. Cloth, $4.00.

The author is a psychiatrist of long experience both in private and institutional psychiatric work. At one time he was consultant in mental hygiene at Dartmouth College. At present he holds the position of Psychiatrist to the Institution for Male Defective Delinquents, at Napanoch, N. Y.

He is known for his strong antagonism, or, preferably, resistance, to psychoanalysis. In a book entitled *Wish-Hunting in the Unconscious*, he has stated his objections to that theory. To be sure, we know of no one who has ever accused the author of having a thorough knowledge of psychoanalysis, but, judging from his writings, he seems to plead guilty to such a charge.

In his new book the author has attempted to present a new approach to the problem of abnormal behavior. On the other hand, he makes an additional statement that the purpose of this book is to present an alternative to psychoanalysis. He openly admits his aversion to Prof. Freud's theories. Moreover, he claims that he is unable to determine from Dr. Meyer's writings just what Dr. Meyer believes or where he stands. Therefore, in a response to an inner urge, he proceeds to present a theory for both normal and abnormal behavior which he designated as one of biomechanics. In brief, his view of normal and abnormal behavior is based essentially on a physiological or mechanistic basis.

The reader is immediately impressed by the fact that the author has emphasized primarily the physiological and anatomical bases for normal and abnormal human behavior. Such views are neither new nor startling, and recall the opinions expressed by writers of years ago. Those who are acquainted with the modern psychological theories of human behavior and its aberrations will hardly accept the book as an illuminating contribution. Nevertheless, they will readily recognize the author's talent and ability, and will regret that he has failed to take psychoanalysis more seriously.

IRVING J. SANDS.

Development of Personality

PERSONALITY IN FORMATION AND ACTION. By William Healy, M.D. New York, W. W. Norton & Company, Inc., [c. 1938]. 204 pages. 8vo. Cloth, $2.00.

Dr. Healy has presented a comprehensive analysis of personality formation and action, resulting from an experience of thirty years. Numerous case histories are utilized to illustrate this most detailed evaluation of the development of the formative processes leading to the present concepts of our understanding of personality development. The importance of these activities on educational processes, economics, political thought and culture are thoroughly discussed. Not only physicians but educators and all those interested in the realization that man by "knowledge of himself is of at least equal importance to a knowledge of his environment" should read this most interesting book.

A. M. RABINER.

An Important Phase of Proctology

HEMORRHOIDS. By Marion C. Pruitt, M.D. St. Louis, The C. V. Mosby Company, [c. 1938]. 170 pages, illustrated. 4to. Cloth, $4.00.

The author of this book sets out to discuss the comparative values of various methods advocated for treatment of hemorrhoids. The reviewer agrees whole-

heartedly with the impartial conclusions reached by the author.

A brief but comprehensive chapter is devoted to embryology, surgical anatomy and physiology. Examination of the patient, armamentarium, and choice of anesthesia are given their proper importance in succeeding chapters. A short chapter on etiology is followed by another on pathology and classification. Symptoms and signs, as well as diagnosis and differential diagnosis are discussed.

About forty per cent of the book is given over to treatment. The various methods (palliative, injection, operative and electric) are described. The author properly condemns the electric treatment.

As is well stated by the author, "a scientific evaluation of the different methods can only come from one who has had considerable experience in the use of all of them. The enthusiasm of one who uses only one method is of little value...Information secured from high-pressure salesmen representing manufacturers is often exaggerated. While every encouragement should be given to the development of auxiliary aids, their value should be determined by a scientific comparison of the results obtained through the use of these aids and the results of the accepted methods."

The illustrations as a whole are excellent, and those depicting steps of operations are remarkably clear. There are seven color plates which are unusually well done. Every assistant on a surgical service (to whom hemorrhoids are usually relegated) should have this book.

A. W. MARTIN MARINO.

A New Edition of MacKenna's Dermatology

DISEASES OF THE SKIN. A Manual for Students and Practitioners. By the late Robert W. MacKenna, M.D. Fourth edition revised and enlarged by Robert M. B. MacKenna, M.D. Baltimore, William Wood and Company, [c. 1937]. 557 pages, illustrated. 4to. Cloth, $7.00.

This is a new revision of a good general textbook on dermatology for the student and practitioner. The anatomy and physiology of the skin are presented in simplified form. Under a general outline of therapeutics, in which the author has named and described the action of the various drugs used, he has laid down certain therapeutic principles that should be learned and remembered by all who desire to treat skin diseases. These rules warn about being over zealous in treatment, and advise when and when not to use ointments, etc. If these rules be followed they will frequently prevent the loss of a patient to another physician.

In reading on through the text we find accurate descriptions of the diseases with frequent suggestions of the newer thought in etiology. The pathological descriptions are short and terse, but quite sufficient for all except those who are well informed on histopathology of the skin. Many of the less common dermatoses are more briefly described in smaller type.

An interesting thing is the revised life history of the acarus scabei, which, of course, does not change our therapeutic attack, but leads to a better understanding of why some cases do not clear up under what would at first seem to be adequate treatment.

In the section on syphilis are helpful tables of differentiation for some of the types of lesions, but the author has dismissed the therapy in what seems to be too casual a manner. He recommends interrupted treatment after a first fairly intensive course of arsenic and bismuth, which in the light of our reports is definitely inadequate, and is sure to reduce the chances of complete recovery.

Aside from this one fault we believe the book is worthy of consideration.

E. ALMORE GAUVAIN.

An English Translation of Freud On Hysteria

STUDIES IN HYSTERIA. By Dr. Joseph Breuer and Dr. Sigmund Freud. (Nervous & Mental Disease Monograph Series No. 61). Authorized translation with an introduction by A. A. Brill, M.D. Washington, Nervous and Mental Disease Publishing Company, [c. 1936]. 241 pages. 8vo. Paper, $3.00.

Imagine a German classic having to wait 30 years before a translation of it into English could be had! Yet it happened to this work. The book presents a combined effort by Breuer and Freud to account for hysterical phenomena. The value of the work, aside from its intrinsic qualities, lies also in the fact that Freud then was not yet a psychoanalyst and both authors used hypnotism as the means to study the symptoms the patients presented. It shows the road Freud

himself trod before he discarded the method of hypnotism, and substituted for it his now famous method of psychoanalysis. For sheer forceful writing and clarity of presentation this work has no superior. Many years ago on reading the book in the original, the reviewer was impressed by the magnitude and far-reaching consequences of the theoretical considerations, and in collaboration with Dr. Neff, published in a medical journal a resumé of the first chapter. The book presents fine case histories, one by Breuer and four by Freud and a discussion of the psychic phenomena in hysteria by both authors. There is also a special chapter by Breuer on the theoretical material and a final chapter by Freud on psychotherapy. Freud here presents valid reasons why he discarded hypnotism for psycholanalysis. The case histories are models of detailed and careful observation. The translation is excellent.

JOSEPH SMITH.

Another Manual for the Diabetic

DIABETES: A MODERN MANUAL. By Anthony M. Sindoni, Jr., M.D. New York, McGraw-Hill Book Company, Inc., [c. 1937]. 240 pages, illustrated. 8vo. Cloth, $2.00.

Using the novel question and answer technique, the author presents the reader on diabetes with an interesting introduction to the general field. The second section of his book covers a rapid review of the history, cause, complications, etc., of diabetes mellitus. The practical aspects of daily care, emergency measures, and long range therapy are dealt with in the last section. Unfortunately the reader is not warned of the insidious and, at times, unrecognized onset of shock produced by protamine zinc insulin. The importance of incomplete food consumption or vomiting in the production of shock is not stressed. The author joins with most modern writers of manuals in condemning special and artificial foods for diabetics.

The more lay readers of these manuals, the sooner the problem of control will become narrowed to the desire of the diabetic to keep well. Manuals such as this should be compulsory reading for every actual or potential diabetic as well as for the obese.

DAVID GLUSKER.

The March of Preventive Medicine

THE FIGHT FOR LIFE. By Paul De Kruif. New York, Harcourt, Brace and Co., [c. 1938]. 342 pages. 8vo. Cloth, $3.00.

In this, his latest book, De Kruif continues the story of the remarkable advances made by medical science in the prevention of certain diseases and deaths. In his usual dramatic style of writing, the author describes the work of DeLee, and the Chicago Maternity Center; the ingenious research of Goldberger in the etiology of Pellegra; the remarkable campaign against tuberculosis in Detroit, with which the names of Vaughan, Douglas and O'Brien are so prominently linked; the campaign against syphilis in which Wenger is given so active a part; the recent developments in the fight against poliomyelitis including the futile attempt at vaccine prophylaxis by Park and Brody and Kolmer, as well as the attempt at a chemical nasopharyngeal barrier as worked on by Armstrong, Schultz and Kramer; the treatment of neurosyphilis by induction of artificial fever by malaria and later by radiant energy in which Simpson and Kendall were so actively concerned; the work of Elliott in pelvic inflammation and finally the discovery and results with that great chemical sulphanilamide.

De Kruif has become an important literary figure in the crusade for the practical application of the discoveries of medical science to the mass prevention of disease. His spirit chafes at the obstruction which time, experimental trial and economic handicaps interpose. He should not be so impatient, however, for it is well established that the application of new discoveries to medical practice requires many safeguards. Indeed the author definitely acknowledges that such is the case in his description of the attempt to vaccinate against poliomyelitis—"the result of the human test of this vaccine is not a happy story." It is well too that De Kruif should record certain of our failures as well as our successes. He will also understand better the profession's conservative attitude and the reason why the public should not force medical science to the premature application of its discoveries. For if such is done disaster may follow.

JOSEPH C. REGAN.

Dietetics from the Old Vegetarian School Viewpoint

MALNUTRITION, THE MEDICAL OCTOPUS. By John P. Sutherland, M.D. Boston, Meador Publishing Company, [c. 1937]. 368 pages. 8vo. Cloth, $3.00.

This book gives a generalized exposition of the views of the old vegetarian school. It tries to prove in generalities that milk is a lazy man's food. The following 12th conclusion on page 71 is but a sample of the author's views on milk in the first hundred pages.—"Animal or sub-human milk, after all is not the ideal or 'perfect food' for humanity that it is generally and thoughtlessly considered to be, and its free use probably is more injurious than beneficial to mankind."

In the last two hundred pages, the author discusses the importance of living on natural foods, and seems to stress especially a certain brand of cereal. Meats are definitely taboo because of their blood content. The author quotes the Scriptures to strengthen his point. Another example of the scientific suggestions in the book is how to avoid constipation. In addition to fruit juices, honey, raisins and figs and whole grain cereal a table spoon of mineral oil is advised. A further example of the authenticity is the food values given on page 353, suggesting as substitutes for milk and cream, quote: "applesauce, unsweetened or sweetened by the addition of soaked dry peaches or other fruit," etc.

The reviewer leaves to the reader to judge to what extent he can use the book in his library. MORRIS ANT.

A Book for the Worrier

IN THE NAME OF COMMON SENSE. Worry and Its Control. By Matthew N. Chappell, Ph.D. New York, The Macmillan Company, [c. 1938]. 192 pages. 8vo. Cloth. $1.75.

In the past several years, since we have become "psychiatrically-minded," there has been a deluge of books for the layman in which he is told how to cure himself of mental ailments. The book by Dr. Chappell, who is a psychologist, is along the same general lines as the others. The title is well chosen, and common sense predominates in the illustrations used by the author.

It may be granted that many individuals suffering from a mild neurosis or those who are "habitual worriers" without the evidence of a neurosis may derive benefit from reading this book. However, it is doubtful if patients with compulsions, obsessions, phobias, and anxiety attacks which are part of a psychoneurosis will rid themselves of their emotional conflicts by self-analysis after digesting the contents of this book.

The book concerns itself mainly with worry and its control. The practical suggestions of the author in regard to worry, insomnia and relaxation are helpful. However, the author's attempt to belittle Freudian psychology is not well taken, and his assertions that psychoanalysis has developed indirectly from Mesmerism will be logically resented by those who are aware of the beginnings of the school of psychoanalysis. In the hands of Dr. Chappell his method of treatment is undoubtedly successful in those cases which do not show evidence of marked emotional conflicts. The facts he sets forth mirror his success. However, whether by reading his book patients will derive as much benefit is very doubtful. JOSEPH L. ABRAMSON.

The X-ray in T. B.

THE RADIOLOGY OF PULMONARY TUBERCULOSIS. By J. E. Bannen, M.B. Baltimore, William Wood and Company, [c. 1937]. 156 pages, illustrated. 8vo. Cloth, $4.50.

If one had to choose between physical signs and the roentgenogram in the diagnosis and treatment of pulmonary tuberculosis, the choice would not be difficult. Pulmonary tuberculosis, above all diseases, owes so much to and is so dependent on radiology, that any book on the subject is to be welcomed.

The present little volume is more suited for medical student and general practitioner, than for the radiologist. Its conciseness and lucidity of style are a distinct recommendation. The subject matter is logically arranged. Though small, there are chapters on technique, the normal lung, differential diagnosis, and collapse therapy. The sections on pathogenesis, though adding nothing new, are very instructive and interestingly presented.

The inclusion of a chapter on "Clinical Aspects" is distinctly worth while because only through the correlation of clinical and radiological findings does the x-ray prove of greatest value.

The book abounds in illustrations and

makes excellent reading for the physician interested in tuberculosis.

A. V. SHAPIRO.

A German Monograph on Venous Thrombosis

DIE THERAPIE DER THROMBOSE. By Dr. Ernst Friedländer. Wien, Franz Deuticke, [c. 1938]. 117 pages, illustrated. 8vo. Paper, RM 5.40.

This little monograph of Friedlander is an excellent summary of our present knowledge of venous thrombosis. It discusses the formation of the thrombus, the mechanism of embolization, the complications, and differential diagnosis. Considerable attention is given to the careful examination of the ambulatory and the bed ridden patient—particularly with the object of avoiding embolization during the examination of the latter. About two thirds of the book is devoted to prevention and treatment of thrombosis. The latter is given in very great detail and must be read in the original. The special technique of zinc plaster bandages is described. The author claims very remarkable results in the prevention of embolization in medical and surgical cases. The reviewer believes that it would be advisable for large institutions having considerable material to give this form of treatment a thorough trial so that we can soon evaluate the author's claims.

MEYER A. RABINOWITZ.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

CHRONIC INTESTINAL TOXEMIA AND ITS TREATMENT. With Special Reference to Colonic Therapy. By James W. Wiltsie, M.D. Baltimore, William Wood & Company, [c. 1938]. 268 pages. 12mo. Cloth, $3.00.

THE OCCUPATIONAL TREATMENT OF MENTAL ILLNESS. By John I. Russell, M.B. Baltimore, William Wood and Company, [c. 1938]. 231 pages, illustrated. 8vo. Cloth, $2.50.

THE INFANT. A Handbook of Modern Treatment. By Eric Pritchard M.D. Baltimore, William Wood and Company, [c. 1938]. 744 pages, illustrated. 8vo. Cloth, $6.00.

THE INTERNATIONAL MEDICAL ANNUAL. A YEAR BOOK OF TREATMENT AND PRACTITIONER'S INDEX. Edited by H. Letheby Tidy, M.D. and A. Rendle Short, M.D. Baltimore, William Wood and Company, [c. 1938]. 615 pages, illustrated. 8vo. Cloth, $6.00.

THE CHEMISTRY OF THE STERIDS. By Harry Sobotka. Baltimore, The Williams & Wilkins Company, [c. 1938]. 634 pages, illustrated. 8vo. Cloth, $8.50.

PAPERS ON PSYCHO-ANALYSIS. By Ernest Jones, M.D. Fourth edition. Baltimore, William Wood and Company, [c. 1938]. 643 pages. 8vo. Cloth, $8.00.

BIOLOGY FOR MEDICAL STUDENTS. By C. C. Hentschel, M.Sc. and W. R. Ivimey Cook, B.Sc. Second edition. New York, Longmans, Green and Company, [c. 1937]. 664 pages, illustrated. 8vo. Cloth, $7.50.

MORE OF MY LIFE. By Andrea Majocchi. New York, Knight Publishers, [c. 1938]. 308 pages. 8vo. Cloth, $2.50.

THE SYNOVIAL MEMBRANE AND THE SYNOVIAL FLUID WITH SPECIAL REFERENCE TO ARTHRITIS AND INJURIES OF THE JOINTS. By David H. Kling, M.D. Los Angeles, Medical Press, [c. 1938]. 299 pages, illustrated. 8vo. Cloth, $5.00.

DISEASES OF THE NOSE, THROAT AND EAR. MEDICAL AND SURGICAL. By William L. Ballenger, M.D. and Howard C. Ballenger, M.D. Seventh edition. Philadelphia, Lea & Febiger, [c. 1938]. 1030 pages, illustrated. 8vo. Cloth, $11.00.

GENERAL TECHNIC OF MEDICATION. An Introduction to Medicinal Technology. By Bernard Fantus, M.D. Third edition. Chicago, American Medical Association, [c. 1938]. 626 pages. 12mo. Cloth, $2.00.

THE LIFE OF CHEVALIER JACKSON. AN AUTOBIOGRAPHY. New York, The Macmillan Company, [c. 1938]. 229 pages, illustrated. 8vo. Cloth, $3.50.

REPORT OF THE HOSPITAL SURVEY FOR NEW YORK. Presented to the Survey Committee by its Study Committee. Volume III. New York, United Hospital Fund, [c. 1938]. 571 pages. 8vo. Cloth.

ELECTROTHERAPY AND LIGHT THERAPY. By Richard Kovács, M.D. Third edition. Philadelphia, Lea & Febiger, [c. 1938]. 744 pages, illustrated. 8vo. Cloth, $7.50.

THE ACCIDENT OF BIRTH. By the Editors of Fortune. New York, Farrar and Rinehart, [c. 1938]. 40 pages, illustrated. 12mo. Cloth, $.75.

A GENERAL TEXTBOOK OF NURSING. A Comprehensive Guide to the Final State Examinations. By Evelyn C. Pearce. New York, E. P. Dutton and Company, [c. 1938]. 888 pages,, illustrated. 8vo. Cloth, $3.75.